BRITISH RAINFALL,
1898.

SHIELD, Printer,
29 Cadogan Gardens, Chelsea.
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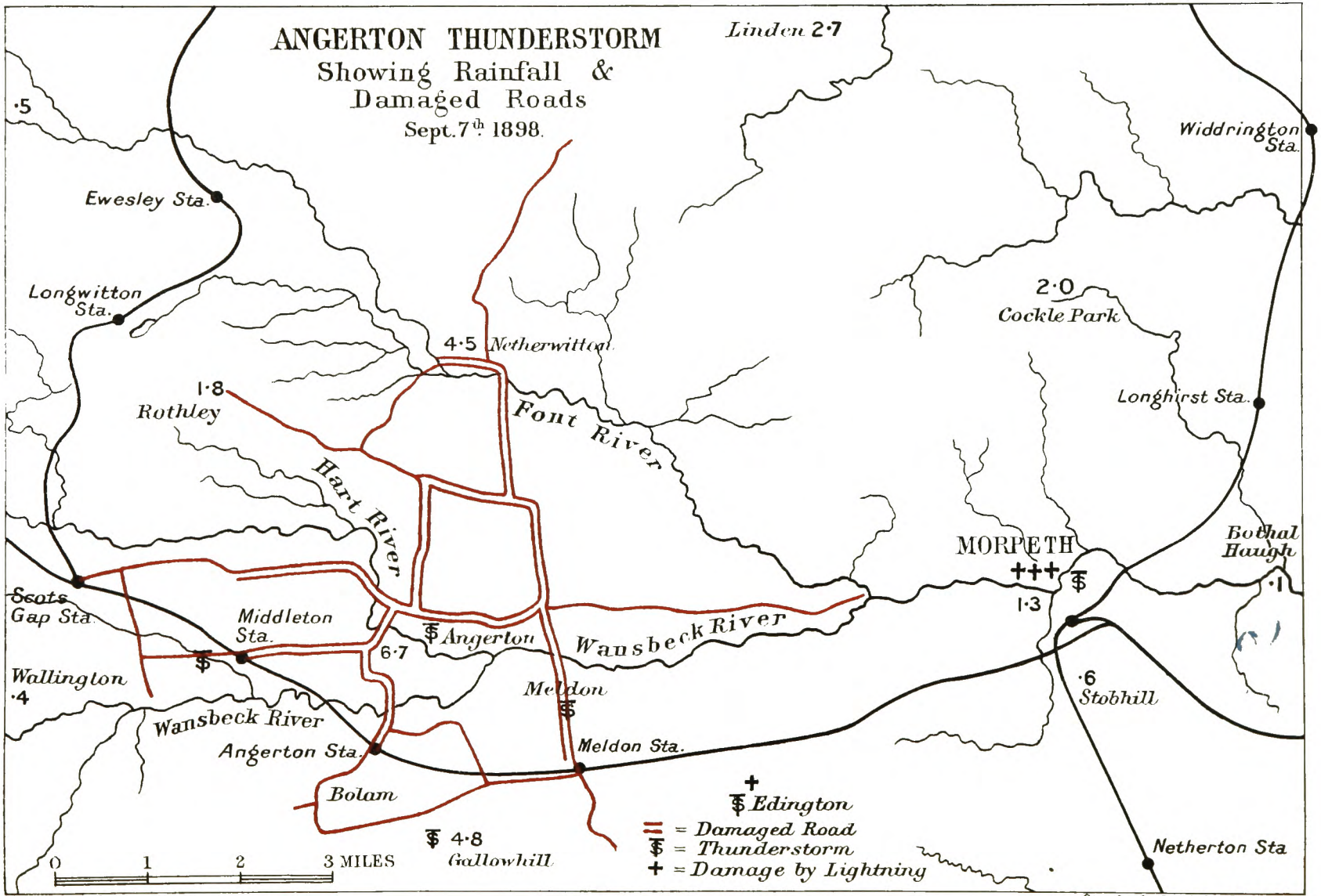
Brompton Road.



See page 33.

Stanfords Geogl Estabt, London

M.O. 7
BRITISH RAINFALL, 1898.
R.15
Lending

THE DISTRIBUTION OF RAIN

OVER THE

BRITISH ISLES,

DURING THE YEAR

1898,

AS OBSERVED AT MORE THAN 3000 STATIONS IN GREAT BRITAIN AND IRELAND,

WITH ARTICLES UPON VARIOUS BRANCHES OF RAINFALL WORK.

COMPILED BY

G. J. SYMONS, F.R.S.,

CHEVALIER DE LA LÉGION D'HONNEUR,
ALBERT MEDALLIST FOR 1897,
Secretary Royal Meteorological Society; Membre du Conseil Société Météorologique de France. Member Scottish Meteorological Society; Korrespondirendes Mitglied der Deutschen Meteorologischen Gesellschaft; Fellow of Sanitary Institute; Fellow Royal Colonial Institute; Membre correspondant étranger Soc. Royale de Médecine Publique de Belgique, Socio correspondiente Sociedad Cientifica Antonio Alzate, Mexico,
&c.

AND

H. SOWERBY WALLIS,

Fellow Royal Meteorological Society; Member Scottish Meteorological Society; Member Sanitary Institute.

LONDON:
EDWARD STANFORD, COCKSPUR STREET, S.W.
1899.

ERRATA IN BRITISH RAINFALL, 1897.

Page 20, 4th paragraph, 6th line, *for* "preceding" *read* "following."

,, [23]. July 24th. *Erase the first entry, Bodenham Vicarage.*

,, [136]. Aberdeen, Haddo House: Feb., *for* "·52 in." *read* "·71 in."; May, *for* "1·54 in." *read* "1·96 in."; Total, *for* "29·94 in." *read* "30·55 in."

,, [140]. The note on March, from Dorset, *should read* "R 4·51 in., unprecedented in 23 years."

,, [177]. North Walsham, East Ruston Grange: "The gauge was at Cantley till October."

,, [180]. Torquay, Chapel Hill: *for* "34·97" *read* "35·94."

,, [191]. Alford Burial Ground: *for* "24·30" *read* "20·94."

,, [197]. Over Darwen, F. G. Haworth, Esq.: "54·11 in. is the average of two other records."

,, [205]. Two lines from bottom. Cloughton (Burneston) is misplaced; Burneston should be under Bedale.

,, [219]. Muirkirk (Glenbuck): *for* "51·50 in." *read* "51·55 in."

ERRATUM IN BRITISH RAINFALL, 1898.

Page [113]. May 23rd. The Knypersley return is untrustworthy.

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BRITISH RAINFALL, 1898.

In Meteorology, and especially as regards rainfall, continuity and uniformity of procedure are of paramount importance. It is, therefore, satisfactory to consider that this is the thirty-ninth consecutive Annual Report, and that though the volumes have grown enormously in dimensions, and additional details have been given, the general arrangement has been identical throughout.

With a staff of observers numbering between 3,000 and 4,000, deaths and removals are inevitable; but we think that it is becoming exceedingly common for the observations commenced by one generation to be continued by the second; and in one case the record has been kept up by the same family, in the same spot, for four generations, without the loss of the observation for a single day. Such records for 30 or 40 consecutive years, are very important, and are becoming somewhat numerous.

The *British Rainfall* volumes have gained their position by hard work, and by scrupulous attention to accuracy; we have done all in our power to enable this volume to maintain the reputation of the series in that respect, and we trust that the details of the Angerton storm, and other notes as to Droughts, Whirlwinds, &c., scattered through the volume, will be of general interest.

G. J. SYMONS.

H. SOWERBY WALLIS.

62, Camden Square, London, N.W.

July 14th, 1899.

REPORT.

Checking; a simple word, but expressive of one of the most arduous and wearisome portions of rainfall work.—The checking of the returns utilized in this volume has taken quite ten months, i.e., three persons on an average 90 working days each. Probably many of our readers believe that our work consists chiefly in issuing blank forms, in receiving them filled up, and then in arranging the data contained in them, and sending the MS. to the printer. If it were so, our labour would be greatly reduced, but these volumes would lose their reputation, we should either have to print pages of errata, or do as many others do, print none at all, a complacent process perhaps, but certainly one that we shall never adopt. Nevertheless at times we cannot help wondering where the limit as to checking should be fixed. When *British Rainfall* was started, we verified the arithmetic of every return sent to us, that we have always done, and shall always do. We also adopted various plans for the detection of mistakes, which also we consider indispensable. At that time, with the exception of Mr. Glaisher's reports, and of those of the Registrar General for Scotland, scarcely any monthly or annual rainfall tables were printed, and therefore it was easy to compare all published tables with our own, and to hunt down discrepancies. This is far from the case in 1899. Some of the returns sent to us are published also in two, three, four, and even five different places, so that there are, perhaps (reckoning duplicates, triplicates, &c.), upwards of 1000 returns published in newspapers, pamphlets, and reports. Every one of these which we can obtain, is compared with the returns sent to us, and every discrepancy involves a letter to the observer asking for an explanation, and for a statement which is correct. Though nineteen times out of twenty, when there is a difference, it is the local publication which is wrong, yet sometimes it turns out that the observer has sent us a wrong figure, which no other process would have enabled us to detect. Aiming as we do at the greatest accuracy reasonably attainable, we suppose that all this checking must go on; but we wish that every one shared our desire for accuracy, and would

take equal care to secure it; we should then have some hundreds fewer letters to write. How many persons have adopted the rule which exists here, and which we have mentioned in these pages—NEVER COPY A TOTAL? "Oh!" says the lazy man, "but it is such a bother to add it up again." Yes, my friend, but you forget that it would prove two things (1) that all the entries were correctly copied, and (2) that the addition was probably correct, and you forget also that if you have made a mistake, you will not only give others trouble, but will yourself be asked to examine it later on, so that you will really have more bother than if you had been careful at first. It is almost incredible how indifferent some few persons are. An observer had taken the rain each morning throughout the year, and sent a copy to us. In two of the months there was an error, either in one of the entries or in the addition. We sent the return back for examination. The observer tore up the record, and said that "he had not time to see what was wrong!" Persons of that temperament would be quite happy if they saw their names in print with any figures after them, whether correct or not.

The Rainfall of Snowdonia.—About thirty-five years since, Major Mathew, while residing at Wern, Port Madoc, devoted both time and money towards ascertaining the rainfall of N. Wales, which, up to that time (1865), had been very badly supplied with rainfall observers. He started about thirty stations, and for many years superintended the observations, sent us copies of the results, and also printed them for local distribution. Few of his stations were high up; and they were mostly in the gardens of personal friends. After he left the neighbourhood, many of the stations ceased, but, happily, some are still going on, and they afford long records of the greatest utility.

The year 1898 has seen the commencement of another attempt of a similar, but much more difficult, nature to which we hope to devote a map and special article in our next, but which we cannot allow to go without notice this year.

Mr. Gethin Jones, of Bod Gethin, Bangor, has determined to find the wettest place in Wales; and has set to work with great energy and discretion. He has fourteen gauges, of great capacity, at altitudes ranging from 200 to 2,500 feet; and the records seem likely to surpass even the old stations of Pen-y-gwryd, Bryn Gwynant, and the New Welsh State Quarries. It is almost needless to say

that we are following this laborious work with close attention, and hope to report fully upon it next year.

Rainfall Fluctuation during 175 consecutive years.—We have considered the best form in which to re-work the values for the above, and have decided that it will be best to wait until the close of the rainfall decade 1890—99, and then to give a series of totals, similar to those in *British Rainfall*, 1882, but either for the fifty years, 1850—99, or for the sixty years, 1840—99, and either in that, or in the subsequent volume, to carry it back to 1725. We put in the above proviso because the work will be heavy, and much of it cannot be done until the returns for 1899 have been received and verified—that is to say at the very time when the volume for 1899 will be in preparation.

Finance.—The work requisite to keep up the character of our annual volumes increases year by year, and our staff and office accommodation have to be increased also—and this all means greater expenditure. On the other hand, death yearly robs us of those who have helped us to defray those expenses. But, happily, we generally get sufficient new subscribers to make up for those that we have lost, and not a few of our old subscribers (being, we presume, satisfied with our work) are gradually increasing their subscriptions, so that in spite of the deaths, the total receipts are increasing rather than the reverse; we are, therefore, able to do many little things for the benefit of the organisation which previously were impossible.

LIST OF ALL SUMS OF £1 AND UPWARDS RECEIVED IN PAYMENT FOR BOOKS, DIAGRAMS, &c., OR AS CONTRIBUTIONS TO THE GENERAL EXPENSES OF RAINFALL INVESTIGATIONS IN 1899.

CORPORATIONS AND WATER COMPANIES.

	£	s.	d.
Aire and Calder Navigation Company	1	6	0
Birmingham Corporation	2	2	0
Blackburn ,,	1	1	0
Bolton ,,	2	1	0
Bradford ,,	1	1	0
Brighton ,,	3	0	0
Bristol ,,	1	1	0
Bury ,,	1	0	0
Cambridge Water Works Co.	1	1	0
Cardiff Corporation	1	1	0
Clevedon Water Board	1	1	0
Doncaster Corporation	1	1	0
Hornsey District Council	1	0	0
Hull Corporation	1	1	0
Leeds ,,	1	16	0
Leicester ,,	2	18	0
Liverpool ,,	1	1	0
London ,,	1	1	0
Middlesboro',,	1	1	0
Newcastle and Gateshead Water Company	2	2	0
Nottingham Corporation	1	1	0
Sheffield ,,	1	1	0
Southwark and Vauxhall Water Company	1	1	0
Warrington Corporation	1	1	0
Weaver Navigation Trust	1	6	0

	£	s.	d.
Addington, Rt. Hon. Lord	1	1	0
Ainsworth, Col. D.	1	1	0
,, Col. R. H.	2	10	0
Aitken, R., Esq.	1	0	0
Allcard, Miss	1	10	0
Ames, F., Esq.	1	0	0
,, H. St. V., Esq.	1	1	0
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Appach, Miss	1	1	0
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,, H., Esq.	1	16	0
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,, R., Esq.	1	18	0
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Berridge, W., Esq.	1	5	0

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Bicknell, Percy, Esq.	3	0	0
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Bradshaw, late Admiral, C.B.	3	0	0
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Brook, C. L., Esq.	10	0	0
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,, late Miss E.	2	0	0
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,, Col.	1	10	0

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,, W. D., Esq.	10	15	0
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Jenkyns, Lady	1	0	0
Jersey, The Rt. Hon. the Earl of	1	0	0
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Jones, Mrs.	1	1	0
,, Rev. S. Wickham	1	2	6
Jordan, F. W., Esq., M.D.	1	1	0
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,, D. J., Esq.	2	2	0
,, Shuttleworth, Rt.Hon.Sir U.	1	1	6
Kennedy, J., Esq.	1	0	0
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,, Major	1	0	0
,, S., Esq.	1	0	0
Kitchin, Mrs.	1	1	0
Kitson, late J. H., Esq.	1	0	0
Knight, J., Esq.	1	10	0
Knowles, G., Esq.	1	1	0
Lamb, E., Esq.	1	0	0
Lancashire, J. H., Esq.	1	11	6
Langford, Rt. Hon. Lord	3	0	0
Langton, Miss E. G.	1	0	0
Lassell, The Misses	1	11	0
Latham, Baldwin, Esq., C.E.	2	2	0
Laurie, Rev. Sir. E., Bt.	2	2	0
Lawson, Sir Wilfrid, Bt., M.P.	1	1	0
Leachman, Dr.	1	1	0
Lee, E. A. Esq.	1	1	0
Leigh, W. B., Esq.	1	1	0
Lethbridge, C., Esq. (2 years)	2	2	0
Lippincott, R. C. C., Esq.	1	5	0
Little, Mrs.	1	0	0
Llewellyn, Sir J. T. D., Bt., M.P.	1	11	0
Lloyd, R. Lewis, Esq.	3	0	0
Lomer, Miss	2	0	0
Longfield, R. E., Esq.	1	0	0
Lucas, W., Esq.	2	2	0
McAndrew, J. C., Esq. (2 years)	2	5	0
McCurrich, late J. M., Esq., C.E.	1	1	0
Mace, J. Ellis, Esq.	1	10	0
Macfie, late R., Esq.	5	5	0
Machin, W. G., Esq.	1	1	0
McInroy, Colonel, C.B.	1	1	0
Mackeson, Messrs., & Co.	1	5	0
Maclear, Admiral	1	0	0
Major, R. H., Esq.	1	0	0
Mann, E., Esq.	1	0	0
Mansergh, J., Esq., C. E.	2	2	0
Maples, C. E., Esq.	1	6	0
Markham, C. A., Esq.	1	0	0
Marling, Capt.	1	10	0
,, W. J. Paley, Esq.	2	2	0
Marriott, C. H., Esq., M.D.	1	1	0
Marshall, John, Esq.	2	0	0
,, Stephen A., Esq.	5	0	0
Marten, E. B., Esq., C.E.	1	17	0
,, E. D., Esq., C.E.	1	5	0
Martineau, Miss	1	0	0
Mathew, Mrs.	1	1	0
Maw, C. T., Esq.	1	1	0
Mawley, E., Esq.	1	2	0
Mayne, E. J., Esq.	1	0	0
Meares, J. L. D., Esq.	1	0	0
Mellish, H., Esq.	2	10	0
Melville, A. H. Leslie, Esq.	1	1	0

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Melville, A. S. Leslie, Esq.	1	0	0
Metcalfe, Miss	1	1	0
,, T. T. S., Esq.	1	1	0
Mitchell, Alex., Esq.	2	2	0
,, F. J., Esq.	1	0	0
Moore, Dr. J. W.	1	0	0
Morrison, W., Esq., M.P.	2	0	0
Morton, The Countess D. of	1	1	0
Mossman, R. C., Esq.	1	1	0
Mostyn, C., Esq.	1	1	0
Mount, Rev. C. B.	1	0	0
Myers, W. H., Esq., M.P.	1	1	0
Newbery, G. J., Esq.	1	1	0
Newman, T. P., Esq.	1	1	0
Newton, C. E., Esq., C.E.	1	1	0
Nicol, Dr.	1	1	0
Northwick, Lady	1	1	0
Oakes, Rev. B. P.	1	1	0
Ormerod, W., Esq., J.P.	1	12	6
,, Miss E. A.	2	18	0
Osler, Follett, Esq., F.R.S.	2	0	0
Otter, R. H., Esq.	1	1	0
Padwick, H., Esq.	2	0	0
Palairet, H. H., Esq.	2	2	0
Palmer, Alfred, Esq.	1	11	6
Parker, Rev. Dr.	1	10	0
Parsons, F., Esq.	1	0	0
,, H., Esq.	1	0	0
Paterson, Rev. T. M. B.	1	0	6
Paul, Capt.	1	0	0
Paxton, General	1	10	0
Pearse, Rev. J. T.	1	0	0
Pearson, E., Esq.	1	0	0
,, F. F., Esq.	1	0	0
Pease, Sir J. W., Bt., M.P.	1	1	0
Peckover, Alexander, Esq.	1	16	0
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Pennant, P. P., Esq.	1	0	0
Perry, F. C., Esq.	1	0	0
Peterkin, J. Grant, Esq.	1	0	0
Peto, Sir H., Bt.	1	1	0
Philipps, Captain Lloyd	1	1	0
,, F. H., Esq.	1	0	0
Phillips, E. P., Esq.	1	15	0
Phipps, P., Esq.	1	10	0
Pike, L. W., Esq.	1	0	0
Pitt-Rivers, Gen., F.R.S.	1	0	0
Plater, Rev. C. E.	1	0	0
Plenderleath, Rev. W. C.	1	16	0
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Ramsden, Miss	1	0	0
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Ransom, F., Esq.	1	0	0
Rashleigh, Rev. S.	1	0	0
Rathbone, Mrs. S. J.	1	1	0
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Rayner, F., Esq., C.E.	1	1	0
Reynolds, L. W., Esq.	1	1	0
,, R., Esq.	1	0	0
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Ridout, Rev. G.	1	1	0
Ritson, T. M., Esq., C.E.	1	11	0
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,, J. F., Esq.	1	1	0
Robinson, Prof. H., C.E.	1	1	0
,, H. H., Esq. (4 years)	2	10	0
,, J., Esq.	1	11	0
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Ross, Rev. J. C.	1	0	0
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Russell, H. C., Esq., F.R.S.	1	2	6
Rylands, T. Glazebrook, Esq.	1	1	0
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Schuster, Rev. W. P.	1	0	6
Scoles, Rev. J., S.J.	1	5	0
Scott, Lady Mary	1	0	0
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,, B., Esq.	1	1	0
,, J. W., Esq.	2	2	0
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Shepherd, J. W., Esq.	1	0	0
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Sibly, T. D., Esq.	1	1	0
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Sing, Joshua, Esq.	1	5	0
Single, Stanley, Esq.	1	0	0
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,, Harold, Esq.	2	2	0
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,, Rupert, Esq., C.E.	1	1	0
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Sparkes, J., Esq.	1	1	0
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Stanton, Miss R.	1	0	0
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,, Rev. W. E.	1	1	0
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Symons, Dr. W. H.	1	0	0
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Tatton, T. Egerton, Esq.	1	16	0
Tawney, Miss	1	2	6
Taylor, Captain E. R.	5	0	0
,, F., Esq.	1	0	0
,, Sons & Crimp, Messrs.	1	1	0
,, W., Esq.	1	1	0
Thompson, G. Rodie, Esq.	3	0	0
Tritton, J. H., Esq.	1	11	0
Tuckett, F. F., Esq.	1	5	0
Turner, E. R., Esq., C.E.	1	5	0
Tyndall, W. H., Esq.	1	1	0
Vaughan, Cedric, Esq., C.E.	1	12	0
,, Rev. H.	1	1	0
Venables, Mrs. Lister	1	1	0
Waldegrave, Rt. Hon. Earl	1	0	0
,, The Hon. & Rev. H. N.	1	10	0
Walker, A. O., Esq.	1	0	0
Ward, H., Esq.	1	8	6
Wardale, Rev. J.	1	0	0
Watkins, H., Esq.	1	10	0
Watkins, J., Esq.	1	1	0
Weller, G., Esq.	1	0	0
Westminster, The Duke of	1	0	0
Weston, J., Esq.	1	0	0
Whitaker, B. I., Esq.	1	0	0
Whittington, C. J., Esq.	1	1	0
Wildgoose, R., Esq.	1	0	0
Wilkin, F., Esq.	2	0	0
Wilkinson, W. King, Esq.	1	1	0
Williams, Dr. Theodore	5	5	0
Wilson, A., Esq.	1	10	0
,, A. M., Esq.	2	2	0
,, J. M., Esq.	1	1	0
Wood, Rev. J. Cooper	1	1	0
,, J. G., Esq.	1	11	6
Woodhouse, A. J., Esq.	1	10	0
Wortham, late H., Esq.	1	15	0
Wright, Col. I.	1	1	0
Yool, G. A., Esq.	2	7	0
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Younger, H. J., Esq.	1	10	0

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SELF-RECORDING RAIN GAUGES.

IT is not often that an interval of twenty years occurs between the writing of the first and the fourth chapters of a story, but when that is the case, the reader is, when the fourth appears, entitled to some reference or recapitulation.

In *British Rainfall*, 1878, seventeen pages of text and six pages of engravings were devoted to the description of 28 patterns of self-recording rain gauges. In *British Rainfall*, 1879, eight pages of text and two of engravings were devoted to the description of 3 other patterns, and to a general critique on the 31 patterns. In *British Rainfall*, 1884, engravings were given of four other patterns, bringing the total up to 35.

We have heard of several others since that date, the inventors being:—

36 Binnie, W. J. E.
37 Dines, W. H.
38 Fergusson, S. P.
39 Hellmann, Dr.
40 Légé et Cie.
41 Negretti and Zambra.
42 Richard (Float pattern).
43 Tomes, G.B.*

Although we have done our best to obtain a full description and details of all, and give the best accounts in our power, if, unfortunately, any have been forgotten, we hope to be reminded of them, and supplied with details for our next volume. We carry on the consecutive numbering from the previous articles.

(36) BINNIE, W. J. E., B.A., C.E.

Considering the large number of rain gauges already described, it seemed improbable that one would be devised, having absolutely nothing in common with any of the previous ones, yet the principle of this gauge is entirely new. An excellent and complete description of this gauge will be found in the *Quarterly Journal* of the Roy.Met.Soc., Vol. XVIII., (1892) pp. 6-12. We therefore merely state the outline of its principle and arrangement.

* Four other patterns are being prepared, but not one is ready for publication. Three are English, viz., by Messrs. Percy Fairbairn, F. L. Halliwell, and H. Law; and one German, by Herr Albert Wetzel, jun.

Mr. Binnie made a series of experiments with tubes of different apertures to ascertain the relative weight of a drop of water falling from each, the result being that, provided that the tubes are clean and that the drops are not formed with great rapidity, the variation in weight of a drop from a tube of given diameter is extremely small. By using a small funnel (with a wind shield *à la Nipher*) and a tube of suitable diameter, it is practicable to make one drop represent ·01 inch Then, all that remains is to make the fall of each ·01 inch record itself; this is done by making the drop fall upon a small flat plate, forming one extremity of a delicately balanced lever, which is of course tipped by the impact of each drop, each tip sends an electric current which raises a pencil pressing against a revolving drum, and thus produces the curve. One of these gauges was erected at Barking, and has, we believe, given satisfactory results.

(37) DINES, W. H., B.A.

The rain from an 8-inch, or larger, gauge is led (Fig. I.) into a small double rocking cistern, A, which is pivoted at B, and so arranged that it tips and discharges its contents for every ·01 in. or ·02 in. of rain. The two ends, CC, of a platinum wire project from under the cistern just above two insulated mercury cups, DD, the length of the projecting parts of the wire being such that they cannot both be in the mercury at once when the cistern is at rest, but when the cistern shifts over, the end on one side dips into its cup before the end on the other side has left the other cup. Thus each time the rain tilts the cistern over, a momentary electrical connection is established between the two mercury cups, and this contact, by means of insulated wires leading to the recording part of the gauge, actuates the pen.

The recording mechanism (Fig. II.) consists of a clock and drum, E, to carry the paper; an electro magnet, F; an armature, G, held just above it by a spring; a toothed wheel, H; and a spiral, I, attached to it, and a pen, J.

Each time that the tip of the bucket completes the circuit, the current passes round the magnet and draws down the armature, which returns as soon as the contact is broken. Each motion of the armature turns the toothed wheel round through a distance corresponding to one tooth; and, supposing that the rocking cistern is arranged to tip for each ·01 in. of rain, and there are 25 teeth in

the wheel, a complete turn occurs for every 25 × ·01 in., that is for every quarter of an inch of rain.

The pen which writes the record is attached by a short arm, K, to a piece of light tube, L, which slides up and down a rod, M. On the side opposite to the pen is a short projecting spur, N, which rests on the spiral. As the toothed wheel and spiral are turned, the spur, and consequently the pen, are raised, the pen being at the same time pressed on the paper by the slope and turning of the spiral. The result is that for every ·01 in. of rain the pen is raised one step, and the distance the clock has turned the paper since the last change of height of the pen occurred, shows the time that has elapsed since the preceding electrical contact was made, that is, the time in which ·01 in. of rain fell. By the completion of a whole turn of the wheel and spiral, the pen is raised from its lowest to its highest point, and as soon as the apex of the spiral passes from under the spur, the pen drops to its lowest position, and is ready to commence a fresh series of steps.

Thus the record consists of a straight line when there is no rain, and a line rising in a series of steps when there is rain. The precise details—that is to say, the amount of rain required for each shift of the cistern, the number of teeth in the wheel, the pitch of the spiral, &c.—are not of much consequence. The correct estimation of very heavy rain depends chiefly, if not entirely, on the time scale adopted. With an electrical contact for every ·01 in. or ·02 in., the individual steps become indistinguishable in heavy rain, but the drops of the pen from its highest to its lowest point can hardly be so close together that they cannot be easily counted.

A person sitting in the same room as the recording part of the apparatus, with a watch in his hand, can readily determine the rate of fall for brief periods ; for, each motion of the pen is accompanied by a slight click, and the number of seconds between successive clicks is the time in which a definite amount, dependent on the construction of the gauge, falls.

The gauge—if the recording part be within a moderate distance of the funnel, and a suitable electro magnet be employed—can be worked by two pint Leclanché cells.

(38) Fergusson, S. P.

Here is a new idea, that of a self-recording rain gauge without a funnel ! The inventor was thinking chiefly of providing a gauge

Mr W. H. DINES'S (37)

Fig. I.

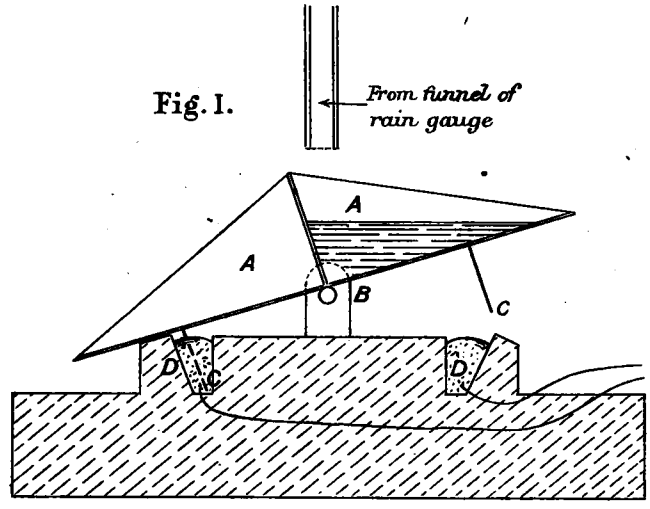
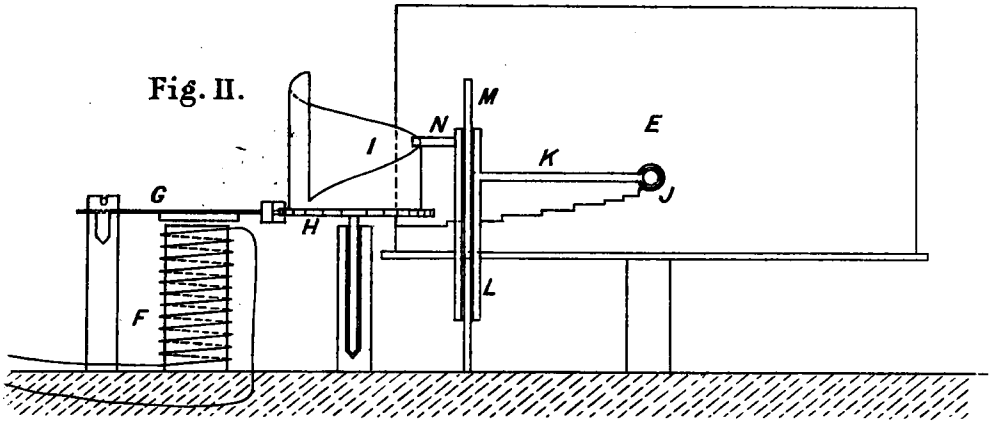


Fig. II.



to face p. 18.

Stanford's Geog.l Estab.t London

which would record the fall of snow without the trouble and inaccuracies due to melting it. The snow, or rain, passes through a rain gauge rim, and falls into a cylinder about the same diameter as the rim (8 inches), and about 12 inches deep. As this cylinder is supported by levers and a spring, the increased weight caused by the addition of snow, or of rain, is at once indicated on a rotating drum. Registration has frequently been effected by the weight of the fallen material, but we think that this is the first attempt to record unmelted snow, and we are not prepared to point to a better arrangement, although we cannot say that we like the absence of a funnel, entailing, as of course it inevitably does, evaporation from the collected rain water. Mr. Fergusson recognises this difficulty and points out that, if desired, a funnel could be dropped in, a little below the rim and left there, except when snow is expected. This would certainly go far towards reconciling us to this pattern, as the winter evaporation is very trifling.

For moderate snow this gauge would probably be very efficient, but as the cylinder fills we think that an ever increasing proportion would be whirled out. However, Mr. Laurence Rotch has had one at work at Blue Hill Observatory, Mass., U.S.A., and we cannot imagine him using an instrument which is not satisfactory.

(39) Hellmann, Prof. Dr. G.

This is the very antithesis of the last pattern. This gauge, we are told, is to be taken indoors in winter! Dr. Hellmann holds strong views on this point; he says* :—

> "The apparatus should serve for the registration of rainfall only, as it seems to me impossible to record the depth of rain and of snow by one instrument with equal certainty and accuracy."

And he adds the following footnote :—

> "The artificial melting of snow in the funnel by heating arrangements (flames, hot-water pipes, &c.) has the following disadvantages: evaporation is increased; a stream of warm air rises from the funnel which deflects the smallest snowflakes and snow crystals; in very heavy falls the snow is so slow in melting (sometimes does not do so at all) that the record lags behind the real time of fall."

We have never experienced a winter in Berlin, and therefore do not presume to question the wisdom of Dr. Hellmann's decision; but

* *Met. Zeits*, 1897, p. 42.

with the milder winters which occur in the British Isles, we think that it is far better to put up with the evils mentioned by Dr. Hellmann than to have no record at all for several months.

However, our duty is to describe the gauge, and as the maker (Herr Fuess of Steglitz, Berlin) has kindly lent us the engraving, it is easy to explain its action.

The funnel is about 5 inches in diameter, and the total height of the gauge about 3 ft. 6 in. The rain falling in the funnel is conducted by the bent tube to the reservoir, G, in which there is a float carrying the rod, S, to which is fastened the arm carrying the pen, T. Therefore, as the rain falls the pen rises, and as the clock turns the paper-covered cylinder we have the record of the time and amount of fall.

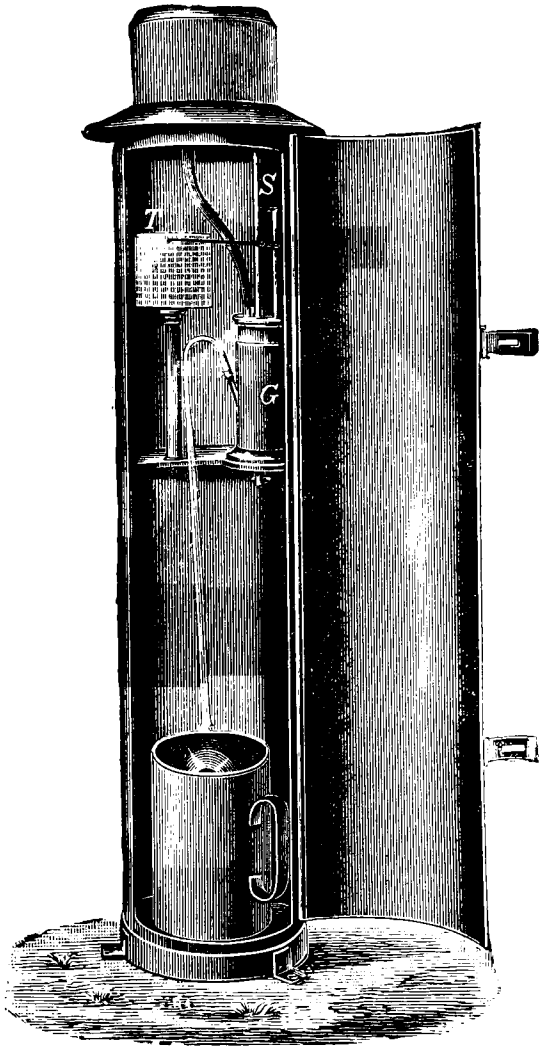
But there is a limit to this, produced (1) by the length of the paper-covered cylinder, (2) by the capacity of G. When the pen reaches the position shown in the engraving, the cylinder, G, is nearly full, the water flows over the bend of the syphon, G is emptied, and the float and the pen descend to recommence their ascent. The scale adopted is about 8 inches for 1 inch of rain; the discharge takes place each time that ·40 inch has fallen. Experience has generally proved that syphon discharges are liable to fail, the water weeping over, instead of filling the tube and discharging properly. We are informed that that evil has been overcome in this gauge. The long syphon tube is of glass (a spare one is supplied with each gauge), and the avoidance of the fault is evidently due either to its length or to the length *and* material. If we were the makers we should try hard to find some other material than glass.

The diagrams given by these instruments are beautifully clear, and we understand that the pattern has been adopted by the German government, and that many have been purchased and erected.

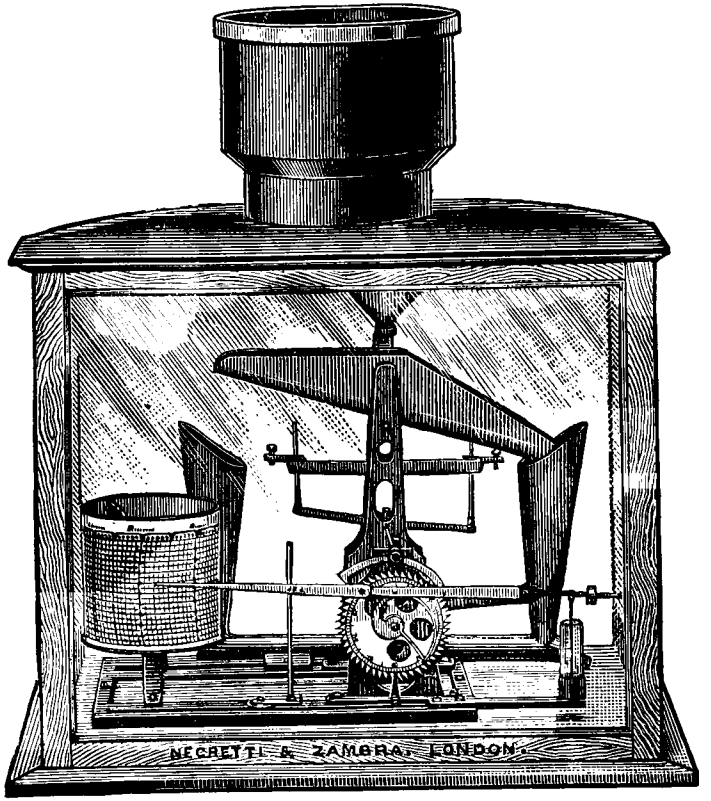
It is, we believe, the lowest priced self-recording gauge yet produced, the cost (in Berlin) being £7 10s.

(40) MM. Légé et Cie.

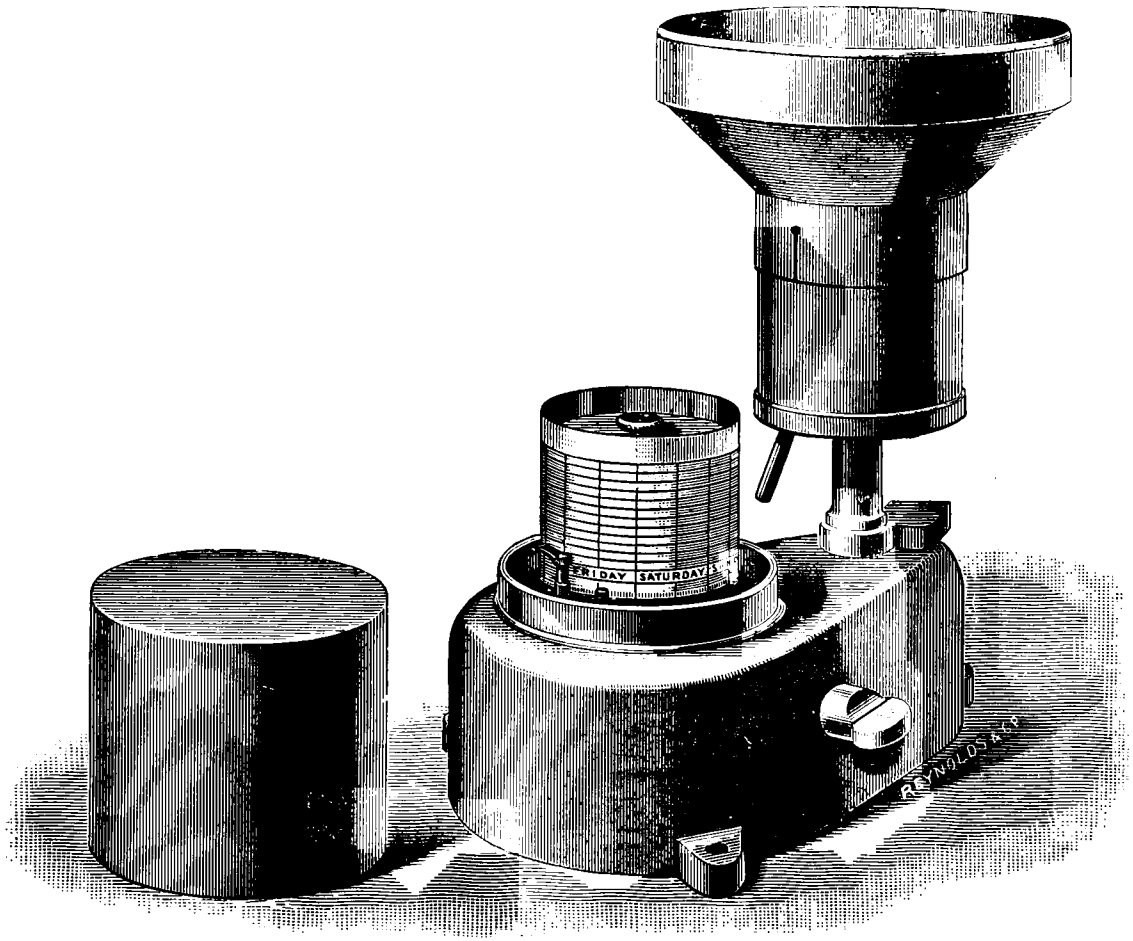
We believe that, although the preliminary steps were taken, this contrivance was not patented; thanks however to the courtesy of Messrs. Légé et Cie., we are able to give an engraving of it. The record is obtained by a Crosley tipping bucket, contained in the lower part of the funnel and discharging by the inclined pipe seen below. The base contains a train of wheels, driven by a spring,



DR. HELLMANN'S (39).



MESSRS. NEGRETTI & ZAMBRA'S (41).



MESSRS. LÉGÉ'S (40).

Face p. 20.

wound by the key seen in the side. The joint effect of the tipping of the bucket, and of the enclosed mechanism, is to raise the rod carrying the pen [the rod will be seen between the words THURSDAY and FRIDAY] one step for each ·01 in. that falls, and from the bottom to the top of the cylinder for each half inch, then however a new feature appears, the pen does not (as in most recorders) drop suddenly to zero, but it works back step by step as long as rain falls, until it again reaches zero, and so on and on in endless alternate sequence.

Considering the quantity and quality of the work put into this gauge, the price (£15) seems to us very reasonable, but the subsequent invention by Negretti and Zambra which gives a better record by an action of the most simple character, and (naturally) at two thirds of the cost, completely eclipses this, though perhaps but for this, Negretti's might not have been brought out. In one respect Légé's is the better gauge, the case is so solid that it will outlast two or three of Negretti's.

The scale of most of these gauges can be easily altered. We think that that adopted by MM. Légé is (as regards time) too crowded, the paper moves only 1 inch in 16 hours, although, as regards amount, there are 4 inches of paper for an inch of rain. With such a scale not only would the details of a TS rain be invisible, but no idea of the amount could be formed.

(41) MESSRS. NEGRETTI AND ZAMBRA.

There have been many attempts so to adapt the principle of the Crosley tipping bucket as to produce a continuous record, but the simplicity and efficiency of the present one has never been approached. There is of course some loss from water remaining in the bucket, and there may, on the rare occasions when the rate of fall exceeds two inches an hour, be some loss from splashing, but frost will not affect it, and we do not see anything that can go wrong.

Each half of the vibrating bucket alternately fills until it holds ·01 in. of rain then tips over and the other half begins to collect. In tipping it makes the cog wheel, which has 100 teeth, advance one tooth, and as the pen, which writes upon the cylinder, is supported by a helix rigidly fastened to this wheel, the pen is lifted slightly for each ·01 in. that falls. When an inch has fallen, the pen has been raised to the top of the recording cylinder, the extremity of

the helix passes and the pen drops to zero—not however too fast, as a little plunger in a tube of glycerine acts as a slight brake.

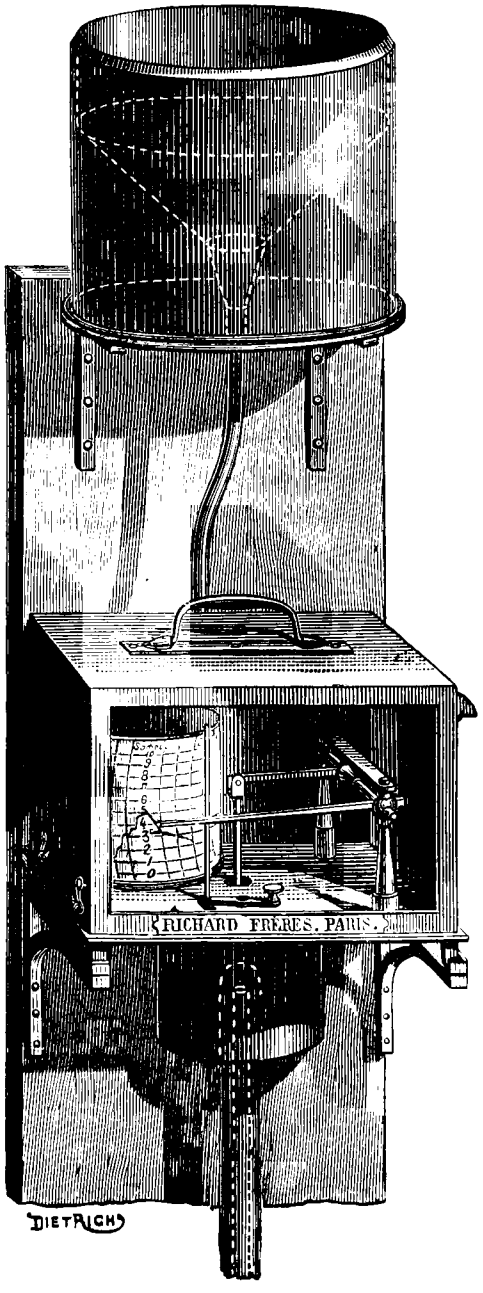
We could specify conditions in which the normal pattern of this gauge would fail, but we could do the same for every pattern that we have yet seen. The makers could, by altering the receiving surface, immediately meet our requirment—but they had much better leave it alone. At present they have given to the instrument proportions which, while not overloading the observer with yards of blank paper, give a square of 1 inch of paper for 0·352 inch of rain, and for 15 hours of time: but it is just as easy (if preferred) for the paper to go at seven times that rate, *i.e.*, for one inch of paper to represent 2 hours and 10 minutes, but then, instead of the instrument being, as it is, competent to go for a week with once winding and one paper, it would require daily attention.

The one which we have, goes for a week, and requires not more than 10 minutes attention each Monday, viz., to wind the clock, replace the diagram by a fresh one, and see that the pen has a proper supply of ink, probably 5 minutes is nearer the truth than 10, for it is a quick and simple process. Hitherto the records have been perfect, but possibly there may be trouble in long continued wet weather, by the paper becoming soft and tearing—we do not anticipate it, however, should that occur, it will merely be necessary to put a partition between the measuring part of the apparatus and the recording drum, and the latter can be kept dry by lime or other dessicating chemicals. But we have no reasons for anticipating the necessity.

This is one of the few recording rain gauges of which the price is fixed and low—£10 complete.

(42) Richard, J.

MM. Richard Frères' best pattern (£20) of recording rain gauge was described and engraved in *British Rainfall*, 1884, p. 24 (Number (35) of this series). In *British Rainfall*, 1886, p. 9, we mentioned that another pattern had been submitted by them, which they were prepared to supply at £10; but we had then had it only a short time. Before the next volume came out, we had to report that it had failed, and been sent back to Paris. With that resourcefulness which characterizes M. Jules Richard, it came back shortly afterwards, cured.



M. RICHARD'S (Float Pattern) (42).

Face p. 22.

We do not like syphons, and we prefer to avoid the use of electricity when possible; but, of course, all persons do not share our opinions, and, as the pioneer £10 gauge, it is entitled to full description.

The fundamental principle of the gauge is, that the rain as it falls passes into a cylinder, raises a float in that cylinder, and at the same time raises a lever carrying a pen, which traces (on a paper-covered cylinder rotated by a clock) a line which rises as the rain falls. When ·40 in. has fallen, the water rises to the top of the syphon and discharges, and the float and recording pen go back to zero. This was the original form; this also is the form of the gauge shown in the engraving. It was, however, found that when the cylinder was full nearly to the discharging point, if rain fell very slowly, the water trickled over the syphon, instead of producing a true syphonic discharge. For this reason we returned the gauge. M. Richard then added to it a very ingenious arrangement, whereby directly ·40 in. has fallen, an electric connection is established, whereby an electro-magnet gives a strong push to the float, and by its extra immersion ensures perfect syphonic action. Thus supplemented it never failed while we had it in work. We have not kept it in operation throughout the winter, because every additional gauge means extra care. With attention, we think that satisfactory records could be obtained; if neglected, a burst cylinder is a possibility.

Although different in appearance and in details, it will be seen that the principle of this gauge is identical with the pattern subsequently brought out by Dr. Hellmann.

(43) Tomes, G. B.

This pattern of gauge was patented (No. 17,473, 1890), but the patent was absolutely worthless, as (although doubtless the inventor had not heard of it) he added nothing to Bevan's design which had been originally published 73 years previous, and had been described and engraved in *British Rainfall*, 1878, p. 32, *i.e.*, 12 years before Mr. Tomes took out his patent. Tomes's arrangement was somewhat more compact than Bevan's, but (as shown on the specification) the funnel was not raised sufficiently above the top of the case. It is not a pattern that we could recommend, but it is much better than nothing, and some years since, one made by the inventor, produced a really valuable record during a thunderstorm at Eastbourne.

TWO OTHER RAIN GAUGES.

In searching the publications of the Patent Office to ensure that the foregoing list was as nearly complete as we could make it, we came upon two other devices which may as well be mentioned as they may be of interest to some one.

CURZON, H., 13085, OCT. 2, 1884.

Rain and dew gauges. The rain falls into a funnel shaped receptacle, and passes into a hollow column, from the bottom of which a sloping glass tube rises. The hollow column is narrowed at its bottom, so that the first degree of the scale which runs along the glass tube is longer than the others, and shows more accurately dew or trifling rainfall. The water may be tinted by a cake of aniline, or a coloured stick of glass, or preferably an india-rubber tube may pass up the glass tube, rendering the level of the water more apparent. The india-rubber tube also prevents the glass tube from bursting during frost. The apparatus is hung on a pivot, and held in position by a fastening, which, when unlocked, allows it to be tilted over and emptied.

[The above is apparently very nearly a reproduction of the first form of *Storm Rain Gauge.* See *Brit. Rain.*, 1868, p. 28].

MURDAY, T. J., 5322, MARCH 28, 1889.

Indicating at a distance, electrically . . . . rain or dew . . . . gauges. A complicated apparatus, not easily explained but of which the essential feature is—"A false index finger or rod at the observing station and a duplicate at the recording station are advanced simultaneously till the false index touches the real index of the observing instrument. This contact closes a new electric circuit and the false index and its duplicate are stopped at the right reading."

[If electricity is to be used we think that the simple method suggested by Mr. Dines is preferable.]

WHAT CONSTITUTES A DRY YEAR?

THE above question was asked recently, and as both question and answer are of general interest, it seems expedient to bring them to the notice of our readers, so that eventually a definition may be adopted.

The first noteworthy point is, that the question ignores one important matter. The querist does not indicate whether he means a civil year (January—December) or any period of 365 days. For some purposes, it is undoubtedly convenient to adopt what may perhaps be appropriately called a "percolation" year, beginning and ending with October 1st. But to recompute the totals for "percolation" years for the 50,000 or 100,000 "civil" year records in our office, is too formidable a task; moreover, directly we take anything other than the civil year, we destroy the possibility of comparison with nearly all other organizations and publications, and introduce confusion where at present there is uniformity. There is no harm whatever in using the "percolation" year where desired, but every care must be taken that it is never confused with the civil year.

The question then becomes "What constitutes a dry civil year?" Reference to *British Rainfall* 1883, p. 32, will show that (if the mean annual rainfall be represented by 100) in the driest year it will be 66, in the driest two consecutive years it will be 74, and in the driest three consecutive years 79. The paper in the *Proc. Inst. C.E.*, Vol. CIX., by Sir Alexander Binnie, gives practically the same values.

Again the map of total rainfall given in each of these annual volumes is drawn in accordance with the following rules:—

> "The round dot indicates a fall within 10 per cent. of the average."
>
> "The + and − show respectively excess or defect of between 10 and 25 per cent."
>
> "The same signs enclosed by a ring indicate a departure from the average of more than 25 per cent."

These have been popularly expressed as under :—

Very dry	= 25 per cent. or more below	
Dry	= between 10 and 25 per cent. below	
Average	= within 10 per cent. above or below	the average.
Wet	= between 10 and 25 per cent. above	
Very wet	= 25 per cent. or more above	

From the above it will be seen that as a general rule the very driest year has 33 per cent. less than the mean. We believe that there are a few genuine cases in which the fall has been only half the average, but they are extremely rare.

The popular table on page 150 of *British Rainfall*, 1897, and the corresponding one in the present volume, are drawn up on the previously mentioned basis, and we see no reason to modify it.

We have tried to ascertain what would be the distribution of a record of 100 years, and the result seems to be approximately :—

−25 per cent., or more.	−10 to 25 per cent.	Within 10 per cent. + or −.	+ 10 per cent. to + 25 per cent.	+ 25 per cent., or more.
Very dry.	Dry.	Average.	Wet.	Very Wet.
5	30	30	30	5

The result of this would be : (1) That one year in ten would have the epithet "very" in addition to its definition of "dry" or "wet"; (2) That six years out of ten would be described as "dry" or "wet"; and (3) That three years would be described as "average" years.

This distribution seems to us reasonable, and we are glad that it does so, because if it had had to be changed, the series of seventeen annual maps which we have issued (1881-97) would not be comparable with their successors. It is also satisfactory that limits selected so many years ago, and in an early stage of rainfall work, should prove to have been wisely chosen.

The answer that we give to the question, "What constitutes a dry civil year?" is, therefore, "A year with a tenth less than the average," and, if the deficiency exceeds a quarter of the average, the year should be called "Very dry."

ON THE INCREASE OF RAIN WITH ALTITUDE ABOVE SEA LEVEL.

As a broad, general statement it is correct to say that in the British Isles the annual rainfall increases with the elevation of the locality above the sea. But this general proposition is, as regards individual stations, so frequently reversed that no reliance can be placed upon it.

It has occurred to us that the large number of values of mean rainfall given in the last three volumes for stations in the English Lake district, which everybody knows to be generally high, and generally wet, would afford exceptionally good data for illustrating this matter. We have, therefore, copied out from the figures already given, the means for every station of which the altitude exceeded 1,000 feet, or at which the rainfall exceeded 100 inches. The only differences from the values as originally given are, that in cases where two series of observations have been made at one spot, the mean has been taken instead of making two entries for one locality, and in the case of Seathwaite and of The Stye, the means of all the records have been taken, so as to avoid unduly weighting the tables.

In the first table the stations are arranged according to altitude, beginning with the highest station, Sca Fell Pike at 3,200 ft., and going down to Greenside Mine at 1,000 ft.

In the second table the stations are arranged according to total rainfall, beginning with The Stye with 169 inches, and finishing with Wythburn Parsonage with 100·1 inches.

Our comments had better follow the tables.

Stations at an altitude of 1,000 *ft. or more, arranged in the order of altitude.*

Stations.	Altitude. ft.	Mean Rain. in.	Stations.	Altitude. ft.	Mean Rain. in.
Sca Fell Pike	3200	85	Shap, Swindale	1610	91
,, ,, Broad Crag	3010	114	Eskdale Head	1570	77
Great End	2982	66	Shap, Sleddale Hall	1560	79
Great Gabel	2940	81	Greenside, Stang End	1550	76
Fairfield	2860	85	Kirkstone Pass	1500	93
Esk Hause	2550	85	Shap, Sleddale Hall	1500	88
Ullscarf	2100	115	Elterwater, Lingmoor	1485	100
Helvellyn (Whiteside)	2100	73	Stye Head Tarn	1472	116
Seatoller Common	2000	126	Matterdale Fell	1400	81
Sprinkling Tarn	1985	122	Easedale Tarn	1175	101
Helvellyn, Birkside	1900	80	Gowbarrow Fell	1100	60
,, ,,	1800	102	The Stye	1077	169
Lingmell	1778	91	Gabel Hawes	1077	84
Rusthwaite Lodge	1750	105	Taylor's Gill	1077	164
Skiddaw	1677	52	Hawkshead, Black Fell	1055	67
,, Whitbeck	1677	47	Greenside Mine	1000	98
Armboth Fells, The Pewits	1655	86	Ullswater, Swarth Fell	1000	54

ABSTRACT.

	No of stations.							
1000—1499 ft.,	11	Mean altitude,	1175	Mean rainfall,	in. 99·3	90·6	93·3
1500—1999 ,,	14	,, ,,	1608	,, ,,	81·9		
2000—2499 ,,	3	,, ,,	2067	,, ,,	104·7	92·1	89·4
2500—2999 ,,	4	,, ,,	2833	,, ,,	79·4		
3000 upwards	2	,, ,,	3105	,, ,,	99·3		

17 lowest stations mean altitude, 1307 ft. 93·9 in.
17 highest ,, ,, ,, 2233 ,, 89·0 ,,

In the above little table we group these figures in zones of 500 ft. altitude, and, at the side, group them also in zones of 1,000 ft. It will be seen that the highest and the lowest 500 ft. have identical rainfall—and that there is no sign of increase or decrease with altitude. The same fact is shown by dividing the table into halves, the mean for the highest 17 stations coming out just a trifle lower than those at 900 ft. less altitude.

Stations with a mean rainfall af 100 inches or more.

We now proceed to examine whether any relation dependent on altitude is shown by very wet stations. There are 29 with mean falls of 100 inches or more, and we give the list of them from The Stye downwards.

Stations arranged according to Total Rainfall.

Stations.	Mean rain. in.	Altitude. ft.	Stations.	Mean rain in.	Altitude. ft.
The Stye	169	1077	Little Langdale, Bridgend	106	385
Taylor's Gill	164	1077	Stonethwaite	106	350
Seathwaite	135	422	Great Langdale, Middlefell	105	380
Mickleden	130	490	Grasmere Parsonage	105	180
Seatoller Common	126	2000	Rosthwaite, Castle Lodge.	105	305
Sprinkling Tarn	122	1985	Rusthwaite Lodge	105	1750
Middlefell Place	118	250	Borrowdale Vicarage	104	330
Stye Head Tarn	116	1472	Haweswater, Mardale Grn.	103	780
Dungeon Gill	115	311	Helvellyn, Birkside	102	1800
Ullscarf	115	2100	Great Langdale, Brigg Ho.	102	320
Sca Fell, Broad Crag	114	3010	Wastdale Head	101	247
Fell Foot	113	380	Cockley Beck	101	720
Gatesgarth	112	290	Easedale Tarn	101	1175
Hassness	107	330	Wythburn Parsonage	100	574

ABSTRACT.

Mean fall.			in.	
100 to 109·9,	15 stations.	Mean rain,	103·5	Mean altitude, 642 ft.
110 ,, 119·9,	7 ,,	,, ,,	114·7	,, ,, 1116 ,,
120 ,, 129·9,	3 ,,	,, ,,	125·9	,, ,, 1492 ,,
130 ,, 139·9,	1 ,,	,, ,,	135	,, ,, 422 ,,
140 and above	2 ,,	,, ,,	166·5	,, ,, 1077 ,,
14 wettest stations.		Mean rainfall,	126·5 in.	Mean altitude, 1085 ft.
14 driest ,,		,, ,,	103·2 ,,	,, ,, 664 ,,

In this table there is a little support for the theory of increase of rainfall with elevation, although even here there are wild discrepancies, so that by manipulation, either an increase or a decrease could be (dishonestly) made out. The reason that this table is less contradictory to the theory than the previous one is, that by restricting entry to stations with at least 100 inches of rain per annum, the records on wind-swept mountain tops, which rarely reach 100 inches, are shut out. But this table, like the other, bristles with contradictions. Compare, for instance, Seathwaite and Seatoller Common, or Dungeon Gill and Ullscarf, or Grasmere Parsonage and Rusthwaite Lodge. All these cases show that altitude alone has little influence on the amount of rainfall, and that, in a mountainous country, attention should chiefly be directed to the trend of the hills and valleys in relation to the rain bearing winds.

THE GREAT RAINSTORM AT ANGERTON, NORTHUMBERLAND, SEPTEMBER 7TH, 1898.

THE observer at Angerton (Mr. Elliot), whose rain gauge will hold 3·80 in., reported as follows :—

> "An abnormally heavy fall of rain visited this district on Sept. 7th, accompanied by a severe TS, which lasted about three hours, during which time the rain gauge was visited twice, and the record taken each time, the total amount being 6·70 in. Much damage was done to the highways in the district by the heavy rush of surface water, something like £500 being required to repair them."

This is another illustration of the fact, confirming the opinion which we have long held, that exceptional falls of rain are quite independent of the mean annual fall. The mean at Angerton is 30 or 32 inches, and yet it has in three hours a fall rarely reached at stations with four times its average fall.

It is a case of such importance that we are very glad to have been favoured, in collecting information about it, with considerable help from our esteemed correspondent, the Hon. and Rev. W. Ellis, of Bothalhaugh, a few miles east of Morpeth—who, by the bye, had only ·06 in. of R, *i.e.*, was on the very edge of the storm.

The storm was *exceptional* over only a very small area, as shown by the map which forms the frontispiece to this volume, but a TS occurred on the same day at Consett in N. Durham, about 20 miles south of Angerton, giving a rainfall of 1·14 in. The following are the only records in the neighbourhood of Angerton of which we have heard ; they are arranged according to their distance from that station.

Station.	Distance and bearing from Angerton.	Total Rainfall. in.
Angerton	None	6·70
Gallowhill	2 miles S.S.E.	4·75
Netherwitton	2¾ ,, N.	4·45
Rothley Crag	3¾ ,, W.N.W.	1·80
Wallington	4 ,, W.	·44
Font	6¼ ,, N.W.	(·50)
Morpeth (Oldgate)	6½ ,, E.	1·27
,, (Stobhill)	6¾ ,, E.	·55
Linden	8 ,, N.E.	2·75
Cockle Park	8 ,, E.N.E.	2·01
Bothalhaugh	9 ,, E.	·06
Brinkburn Priory	9 ,, N.	1·00
Rothbury (Cragside)	11 ,, N.N.W.	·88

As Mr. Elliot referred to the damage done to the roads, we thought it desirable to ask the Highway Surveyor of the district to favour us with a report; this he has very kindly done, and we have much pleasure in printing it. Moreover, it is upon his authority that we have marked the "damaged" and "much damaged" roads upon our map. It will be seen that the cost of repairs was considerably greater than Mr. Elliot originally believed that it would be.

Report by Mr. Gibson, Highway Surveyor.

Sir,—I regret that pressure of work has prevented earlier reply to your enquiry, and the return of the Ordnance map.

I have put double red lines along the roads where most damage was done, and single lines where rain was not so heavy, although even the roads with the single lines were washed very badly.

Meldon, Hartburn, and Angerton roads suffered worst, and in some cases the road was excavated to a depth of four and five feet, which suggests that the road must have been struck by lightning, so as to make the excavations before the water got in; as I conclude from one particular place where the road had been recently coated with metal and rolled with the Steam Road Roller, viz. :—A complete channel, three feet deep and two feet wide, was cut down the centre of this road for a distance of 15 yards, in fact no roadman with a pick and shovel could have made one so uniform in length and breadth; of course no person was on the road when these holes were made, and there is the possibility that they were caused by water spouts.

Another instance will show the quantity and velocity of the water flowing down a ditch by the road side. Thirty tons of metal were

lying in a heap in the Depôt, two feet from the road side verge, when the ditch overflowed and washed the whole 30 tons of metal directly on to the road, and spread it along the road for about 50 yards; it had the appearance of having been artificially spread ready for the roller, for when the roller did come, no spade was required to level the surface.; this took place on Middleton Bank, near Angerton. At the bottom of this Bank the road takes a dip, and in this the water was 12 feet deep; the railway bridge crosses here, and the high-water mark was measured the morning after, on the abutment wall of the bridge.

The surface and foundations on Angerton Station Bank, in front of the Hall, were all washed down to where the road runs level, and washed up across the road like snow wreaths, part of this accumulation also was washed out of the bottom of the roadside ditch, so that the quantity and speed of the water must have been terrible.

A culvert crossing the road near Meldon was unable to carry all the water, with the result that the water burst over the road and carried away nearly half the roadway; the repair of this part alone cost about £60, as a retaining wall had to be built.

Another very bad slip was caused on the road near Meldon Hall, where a conduit choked up, and the water came over the road and carried away about 12 yards of plantation wall, and also part of the roadway.

I was out the most of the night with a gang of workmen erecting fences and filling up the largest holes, because if anyone had come along driving, their lives would certainly have been in danger.

I had no fewer than eighteen foot-bridges washed away by the flood, some I got back, but others were never seen again.

Anyone seeing the roads the morning after the rain, would have thought that they were the beds of dried up streams, and it took three or four months' labour to reinstate them.

The total cost for damage done, including manual labour, team work, materials, rolling, and mason work, was about £750, all caused in the short space of three hours.

I am, Sir,

Yours faithfully,

W. L. GIBSON.

2, Collingwood Terrace, Morpeth,
17th June, 1899.

Notes upon the Storm.

(Arranged, irrespective of county boundaries, from South to North. The distances and bearings are from Angerton as a centre.)

Consett (21 miles S.)—A man was knocked down by L, but eventually recovered. At Knitsley Mill nearly all the slates were scattered. Castleside was also much damaged.

Ebchester, Medomsley (18 miles S.)—A pony grazing in a field was killed by L. Mr. Palmer's house also was struck.

Newcastle (16 miles S.S.E.)—TS and ·30 in. of R; chimneys were struck in Beaconsfield Street, in Linden Terrace, and in Gloucester Street, one of the roofs was damaged, but no one was hurt.

Stamfordham (8½ miles S.)—TS and heavy H, the ground quite white, 25 panes of glass broken at the Mason's Arms.

Dudley (12 miles S.E.)—Roadway flooded, as the drains could not carry off the water fast enough.

Annitsford (13 miles S.E.)—Grocer's shop struck, two chimneys and the gable damaged, and a grate forced out of its position.

Belsay (4½ miles S.)—A rivulet which feeds a small lake, S. of the house, came down like a river, washed away a high strong wall, and filled the hollow. A burn, a few hundred yards to the north, was only in moderate flood, and so was the River Blyth, half-a-mile N. The H was as large as marbles. Two houses and several trees were struck by L, and the farm of West Edington was set on fire about 3 p.m.

Hartford Ho. (10 miles E.S.E.)—Scarcely any R.

Bolam, Shortflatt (3 miles S.S.W.)—TS from 11.30 a.m. to 4 p.m.; excessive R and H, from 1 inch to 1½ inch in diameter. Howburn beck flooded beyond all recorded precedent. Roof lights and glass houses much damaged.

Blyth (14 miles E.)—Violent TS in afternoon, with excessive R; many basements were flooded, a wall was washed down, and a pike of hay fired by the L.

Edington (4 miles E.S.E.) The farm buildings were struck by L and were nearly all destroyed; 70 tons of hay also were burned.

Meldon (1½ miles E.S.E.)—Terrific TS and excessive R; a high wall was washed down, and trees were carried away. The last train from Rothbury was delayed about half-an-hour owing to ballast having been washed away between this station and Angerton.

Wallington (4 miles W.)—The R here was only ·44 in., and two fields W. of us there was so little that the men continued leading hay.

Middleton (2 miles W.)—Severe TS, R and H, some of the latter was 1 inch square.

Angerton (centre).—Horse killed by L. (See also *ante* p. 30.)

Morpeth (6½ miles E.)—TS began about 11 a.m., and continued from noon to 4 p.m. with very little intermission; it was heaviest about 3 p.m., and at about 3.45 p.m. the Wansbeck came down in flood, and continued to rise until 6 p.m., when the road at Low Stanners became impassable, and some of the houses were flooded. Two houses had their chimneys damaged by L. Wansbeck House was set on fire.

Sheepwash Bridge (9 miles E.)—The River Wansbeck rose 8 or 9 feet in an incredibly short time, and this flood meeting the incoming tide, covered the footpaths to the depth of 3 ft. About five years ago the southern arch of the old bridge gave way, and a temporary wooden bridge was erected. Since then the question of a new bridge has been before the County Council on many occasions, but nothing definite has been done. Owing to the rush of water on Wednesday, the southern end of the wooden bridge also gave way, stopping all traffic and compelling everyone to go 10 miles (through Morpeth) in order to cross. The great rush of water brought down scores of sheaves of corn, pikes of hay, young trees, boats, sheep, pigs and goats.

Ashington (10 miles E.)—Scarcely any rain.

Rothley Crag (3¾ miles N.W.)—An extremely heavy TS, doing much harm to roads and bridges. The total here was 1·80 in., and for a short time the rain was so heavy that it overfilled the channels and ran into the house. This is the second heavy storm within four years, for on June 27th, 1895, we had a fearful thunderstorm and 3·25 in. of rain.

Cockle Park (8 miles E.N.E.)—Tremendous TS; 2·01 in. of R fell in two hours.

Cresswell (13 miles E.N.E.)—A smart shower for 20 minutes about 4 p.m.

Felton (11 miles N.N.E.).—Very violent TS; the Manse struck at West Thirston, and a bullock killed in a field at Burgham.

Amble (15 miles N.E.)—Distant T from noon, TS 2 to 4 p.m. Heavy R for about an hour. A telegraph wire led the L into the Post Office, melted the gas pipe and ignited the floor.

Conclusion.

Although we believe every statement of fact in Mr. Gibson's letter, we accept no responsibility for the little bit of theory as to the road having been cut open by lightning. Doubtless Mr. Gibson never before saw such a storm; if he had, he would have known that torrents frequently cut grooves almost as sharply as could be done by a Herculean knife.

Before concluding our note on this remarkable storm we are glad to have Mr. Ellis's permission to print the following portion of a recent letter from him:—

> "There seem to have been several rainstorms, of which, possibly, Angerton may have been one and Belsay another, and other thunderstorms, one following the Coquet Valley, and the other the coast from the Tyne to the Blyth, and bounded by these storms there was a space from Hartford House, by Bothalhaugh, to Ashington, where there was practically no rain. I do not know which is more unusual, the great fall at Belsay and Angerton, or the absence of rain in this small space, with heavy rain all round.
>
> *Bothalhaugh, Morpeth.*"

Our map was prepared with the intention of showing the area of greatest intensity as indicated by the rain gauges, and by the road damage, and it is therefore not available for considering the larger question raised by Mr. Ellis. It is quite possible that there was a second centre of excessive fall at Belsay, which is 4½ miles S. of Angerton, and therefore outside the map, and the remarks from Belsay seem to show it; but, on the other hand, we have no records of damaged roads from that neighbourhood, and the road damage decreased from Angerton to Bolam, in accordance with the nearly two inches less rain at Gallow Hill than at Angerton. We have drawn, for our own instruction, isohyetals for each inch, and find them fairly accordant ovals, their greatest length from S. to N., that for five inches being about five miles long, and at its widest, about two miles from E. to W., but we have not put them upon the map, because there is not sufficient evidence to justify it. We do not remember any such fall, over so large an area, compressed into three hours, nor do we remember any record equal to the 6·70 in. at Angerton.

Angerton, the centre of this great storm, is only 22 miles S.E. of Bloody Bush Edge, the site of the remarkable flood described and illustrated in *British Rainfall*, 1893.

RECORDS OF EVAPORATION.

OUR information upon this subject is growing steadily, though not so rapidly as we had reason to expect.

We proceed to report briefly upon each station, taking those provided with large tanks first, and in the order in which the rainfall records are placed in our general tables. We are glad to give, at the end of this article, an epitome of a long series of observations by Mr. S. H. Miller, whose excellent monograph upon the evaporation from plants, written in 1878, procured for him the prize offered by the Society of Arts and Sciences of Utrecht.

NOTES UPON THE STATIONS.

(*The monthly totals for 1898 will be found on p.* 39.)

CAMDEN SQUARE, N.W.—No change at this station until April, 1899, when the wall S.E. of the tank and a pear tree behind it were removed, considerably improving the exposure. As this is the longest record, continuous up to date, of a large tank in this country, we give the whole of the monthly totals.

Evaporation at Camden Square, 1885–98.

	Jan. in.	Feb. in.	March. in.	April. in.	May. in.	June. in.	July. in.	Aug. in.	Sept. in.	Oct. in.	Nov. in.	Dec. in.	Total. in.
1885.	·20	·38	·86	1·71	1·98	2·77	3·29	2·25	1·13	·77	·17	·11	15·62
1886.	·23	·13	·53	1·59	1·78	2·93	3·12	1·86	1·46	·63	·27	·12	14·65
1887.	+·07	·29	·76	1·72	1·79	3·68	3·76	2·54	1·25	·78	·21	·07	16·78
1888.	·07	·37	·48	1·16	2·71	2·24	1·44	1·90	1·17	·60	·43	·03	12 60
1889.	·03	·18	·62	1·07	1·76	2·97	2·34	1·96	1·52	·42	·29	+·13	13·03
1890.	·08	·19	·50	1·44	2·63	2·14	2·33	2·02	1·27	·79	·31	*·04*	13·74
1891.	*·03*	·16	·73	1·35	1·66	2·83	2·34	1·67	1·00	·62	·20	*·22*	12·81
1892.	·05	·09	·60	1·88	2·65	3·05	2·84	2·20	1·01	·36	·02	*·20*	14·95
1893.	+*·03*	·01	·92	2·33	3·06	3·62	3·12	2·85	1·48	·70	·11	·01	18·18
1894.	+·04	·28	·83	1·17	2·10	2·48	2·49	1·91	·97	·37	·20	·11	12·87
1895.	·14	·64	·36	1·26	3·06	3·31	3·07	2·12	1·27	·54	·19	·07	16·03
1896.	·16	·24	·64	1·57	3·06	3·21	3·63	1·96	·68	·47	·18	·00	15·80
1897.	·23	·21	·76	1·23	2·99	2·48	3·60	2·49	·99	·63	·26	+·14	15·73
Mean	·08	·25	·66	1·50	2·40	2·90	2·87	2·13	1·17	·59	·22	·06	14·83
1898.	·19	·37	·51	1·28	1·56	2·10	2·96	2·53	1·73	·45	·11	·16	13·95
Diff.	+·11	+·12	—·15	—·22	—·84	—·80	+·09	+·40	+·56	—·14	—·11	+·10	—·88

DUPPAS HOUSE, CROYDON.—Here there has been no change. Mr. Baldwin Latham has kindly furnished the following table, in continuation of those given on pages 32–34 of our last volume :—

Observations made at Croydon by Mr. Baldwin Latham, M.Inst.C.E.

1898	Evaporation from 12 in. Evaporator floating in Water.	Condensation in 12 in. Evaporator floating in Water.	Average daily Temperature of Water at 9 a.m. in 12in. Evaporator floating in Water.	5 in. Evaporator freely exposed in Air.	Average daily Temperature of Water at 9 a.m. in 5 in. Evaporator freely exposed in Air.	Temperature of the Dew Point at 9 a.m.
	in.	in.	Deg. F.	in.	Deg. F.	Deg. F.
Jan.....	·31	·02	40·9	·64	41·1	40·1
Feb. ...	·62	—	37·8	1·24	38·5	36·0
March...	·73	·05	37·8	1·70	37·5	34·4
April ...	1·66	·01	48·9	3·31	50·7	41·9
May ...	1·99	—	54·8	2·89	55·7	45·2
June ...	2·22	—	61·1	3·52	61·5	51·0
July ...	2·93	—	64·7	4·31	64·9	54·1
August..	2·69	—	66·1	4·50	67·3	56·1
Sept. ...	1·81	—	61·0	3·41	60·8	53·9
Oct.....	·78	·01	53·1	1·32	52·2	50·2
Nov. ...	·45	—	45·1	·54	43·0	43·0
Dec... ...	·30	·02	42·9	·69	43·0	40·9
Totals	16·49	·11	...	28·07	...	...
Averages..	...	...	51·2	...	51·4	45·6

ISFIELD PLACE, SUSSEX.—No change.

SOUTHAMPTON WATER WORKS, OTTERBOURNE.—No change.

SOUTHWOLD, SUFFOLK.—A new station on the coast of Suffolk, about 12 miles south of Lowestoft. Mr. Herbert has sent us a plan of the grounds, from which the exposure of the tank, and indeed of all his meteorological instruments, appears to be thoroughly satisfactory.

TORQUAY WATER WORKS, KENNICK.—This tank is in a very exposed position, and in times of very high wind and rain, the records not infrequently show much greater excesses than can be due to the condensation of passing vapour. Mr. Ingham is paying careful attention to the matter, and hopes to detect the cause during 1899. It may be, that in so exposed a position the tank really collects a greater depth of rain than the rain gauge ; that will soon be shown by observing whether the excess is proportional to the wind velocity or to the rainfall.

BOSTON WATER WORKS, REVESBY, (formerly called MININGSBY). —A new station, for the record of which we are indebted to Mr. Shaw, the Manager.

It will be seen that during 1898 he used a smaller tank than other observers. He informs us that he has now procured one of the standard size, so that for 1899 his record will be in all respects strictly comparable. He has given up the old one, finding that it and the new one agreed very closely. As the comparison was only during the winter months, it was not a time at which much difference was probable, and it may be that there would be none even in summer. If so, so much the better, for the cost of large tanks undoubtedly prevents their becoming widely distributed. It would be very useful to have this point settled.

BOLTON WATER WORKS.—Mr. Swindlehurst, C.E., writing May 9th, 1899, regrets that he has "not yet fixed the tank, but hopes to do so shortly."

HEYWOOD WATER WORKS, NADEN DANE.—Mr. Diggle, C.E., reports that he had not been able to commence, but is "going to do so."

SOUTHPORT OBSERVATORY.—The meteorological work for the Corporation of Southport has been extremely well done by Mr. Baxendell; and in the autumn of 1898 he was authorised to procure any necessary instruments. He decided, *inter alia*, on having a full-sized tank with hook gauge, &c., complete, and (thanks to the assistance from Mr. G. H. Hill, C.E.) it was put into position before the close of 1898.

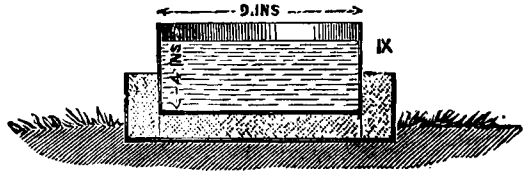
PORT GLASGOW.—There are as yet no records of the evaporation from large water surfaces in Scotland. Mr. S. W. Dalzell, C.E., hoped to remedy this by starting a record at the Port Glasgow Water Works, but the Commissioners of the Burgh did not approve of their Engineer's proposal, and so, for the present, that matter is ended.

EVAPORATION IN 1898.

County ...	*London*,	*Surrey*,	*Sussex*,	*Hampshire*,	*Suffolk*,	*Devon*,	*Lincoln*,
Station ...	Camden Sq.	Duppas House, Croydon	Isfield Place	Otterbourne	Southwold	Kennick, Christow	Revesby Water Works
Latitude ...	51° 32′ 30″ N.	51° 22′ 5″ N.	50° 56′ 50″ N.	51° 0′ 28″ N.	52° 20′ N.	50° 38′ 30″ N.	53° 9′ N.
Longitude.	0 8 0 W.	0 6 13 W.	0 3 40 E.	1 19 55 W.	1 41 E.	3 41 20 W.	0 3 W.
Altitude ...	111 ft.	158 ft.	50 ft.	111 ft.	44 ft.	842 ft.	130 ft.
Observer...	G. J. Symons	BaldwinLatham, C.E.	Major King	W. Matthews, C.E.	A. C. Herbert	W. Ingham, C.E.	J. Shaw
Size of tank	6 ft. × 6 ft.	1 ft. diameter.	4 ft. × 4 ft.	6 ft. × 6 ft.	4 ft. × 4 ft.	6 ft. × 6 ft.	4 ft. × 3 ft.
Capacity (galls.)	450	5	200	450	200	450	150
Height of lip above ground	3 inches	4 inches	1 inch	3 inches	1 inch	3 inches	—
	in.	in.	in.	in.	in.	in.	in.
January ...	·19	·29	·35	·29	·19	·15	·22
February ..	·37	·62	·63	·27	·53	·28	·29
March	·51	·68	·97	·99	·75	·72	·79
April	1·28	1·65	1·82	1·80	1·57	1·95	1·77
May	1·56	2·00	1·96	2·14	1·96	2·58	2·60
June	2·10	2·22	2·76	3·29	2·95	3·50	3·38
July	2·96	2·92	3·21	3·68	3·18	4·53	4·42
August ...	2·53	2·69	3·31	3·27	2·84	3·16	3·18
September	1·73	1·81	2·61	2·55	2·14	2·55	2·60
October ...	·45	·78	1·16	·65	·97	·81	·66
November.	·11	·44	·46	·61	·56	·23	·31
December.	·16	·28	·03	+·01	·14	+·19	+·05
Year, 1898	13·95	16·38	19·27	19·53	17·78	20·27	20·17
,, 1897	15·73	16·93	...	19·09	...	20·04	...

MILLER'S SAND EVAPORATOR AT LOWESTOFT.

It is nearly 30 years since we first mentioned in *British Rainfall* the arrangement devised by Mr. S. H. Miller, F.R.A.S. (then of Wisbech), for the measurement of the evaporation from a water surface, and it was in *British Rainfall*, 1870, that the following little engraving first appeared :—



Mr. Miller used it for seven years at Wisbech, and the mean evaporation was 21 inches.

A copy was made for the experiments at Strathfield Turgiss, and its results were, during the period April to September, 1870, about 22 per cent. greater than the evaporation from the standard tank.

Mr. Miller recently told us that he had a continuous record from one of these instruments, at his new residence at Lowestoft, for the 20 years 1879–98, and he has kindly supplied us with the tables which we print on the following page :—

Monthly Evaporation at Belle Vue Park, Lowestoft.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1879...	·52	·60	1·05	1·84	2·05	2·88	3·25	3·21	2·16	·85	·48	·33	19·22
1880...	·40	·72	1·41	2·29	3·02	2·80	3·20	2·65	2·80	1·08	·72	·45	21·54
1881...	·46	·48	1·40	1·95	3·04	2·95	4·46	2·99	1·18	2·08	·42	·41	21·82
1882...	·52	·70	1·61	1·98	4·41	3·49	3·50	3·21	1·95	1·58	1·29	·44	24·68
1883 ..	·64	·82	·91	2·19	3·09	3·36	3·34	2·94	1·64	1·13	·83	·70	21·59
1884...	·47	·68	1·32	2·36	4·10	3·52	4·25	3·29	2·39	1·35	·65	·68	25·06
1885...	·40	·27	1·62	2·33	2·72	4·55	3·89	3·29	2·13	1·66	·61	·24	23·71
1886...	·37	·60	1·31	1·99	2·53	3·54	3·49	2·76	2·43	1·23	·38	·48	21·11
1887...	·25	·87	1·26	2·37	2·41	4·14	4·48	3·71	1·89	1·27	·54	·33	23·52
1888...	·43	·50	·78	1·78	3·65	3·80	3·00	2·73	1·88	·88	·87	·32	20·62
1889...	·32	·63	1·30	1·40	2·88	3·71	3·08	2·88	1·90	1·41	·82	·31	20·64
1890...	·11	·67	1·26	2·10	3·20	3·68	4·67	2·79	1·75	1·00	1·01	·44	22·68
1891...	·13	·42	1·29	1·66	2·60	2·98	3·53	2·19	2·04	1·10	·34	·22	18·40
1892...	·35	·50	1·03	2·37	3·30	2·07	3·49	2·97	1·81	1·89	·34	·35	20·47
1893...	·23	·56	1·60	2·75	3·65	4·32	4·19	3·64	2·57	1·23	·58	·26	25·58
1894...	·41	·93	1·35	1·99	2·71	3·80	3·61	2·92	1·60	1·15	·67	·21	21·35
1895...	·60	·70	1·19	1·90	3·50	4·11	3·90	3·48	2·98	1·16	·50	·58	24·60
1896...	·53	·65	1·48	2·11	3·27	4·41	4·74	3·26	2·04	1·00	·63	·40	24·52
1897...	·60	·71	1·79	2·00	2·21	3·75	4·63	3·93	2·02	1·16	·45	·55	23·80
1898...	·47	·90	1·31	2·48	2·78	3·55	3·84	3·51	2·91	1·62	·74	·62	24·73
Mean ...	·41	·65	1·31	2·09	3·05	3·57	3·83	3·12	2·10	1·29	·64	·42	22·48
Max. ...	·64	·93	1·79	2·75	4·41	4·55	4·74	3·93	2·98	2·08	1·29	·70	25·58
Date..	1883	1894	1897	1893	1882	1885	1896	1897	1895	1881	1882	1883	1893
Min. ...	·11	·27	·78	1·40	2·05	2·07	3·00	2·19	1·18	·85	·34	·21	18·40
Date..	1890	1885	1888	1889	1879	1892	1888	1891	1881	1879	'91 '92	1894	1891

Monthly Rainfall at Belle Vue Park, Lowestoft.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1879...	1·14	2·40	1·23	2·29	1·88	2·10	4·75	3·95	3·39	1·40	2·13	·64	27·30
1880...	·06	1·66	·85	1·74	·52	2·10	4·77	1·69	2·45	3·64	2·14	2·07	23·69
1881...	1·07	2·25	1·78	·93	·85	2·01	1·19	3·87	2·96	3·25	1·26	3·21	24·63
1882...	1·38	1·64	1·09	2·48	1·96	3·00	2·82	1·61	2·32	4·92	3·48	3·67	30·37
1883...	1·74	2·17	1·46	1·96	1·90	2·16	3·82	1·03	1·70	2·49	3·50	2·10	26·03
1884...	1·51	·83	·97	1·27	1·16	·57	2·87	·92	4·60	3·32	1·80	2·50	22·32
1885...	1·79	1·90	·87	1·50	2·17	·73	·32	·67	5·35	6·30	2·56	1·24	25·40
1886...	1·99	·39	1·56	1·16	1·89	·52	3·37	1·51	1·33	2·48	2·63	3·36	22·19
1887...	1·24	·51	1·37	1·10	2·03	·14	·95	2·10	2·39	2·61	2·52	1·64	18·60
1888...	1·00	2·18	3·05	1·33	1·08	·82	4·84	1·78	1·86	1·97	3·15	·81	23·87
1889...	·60	1·32	1·02	2·15	2·33	2·53	2·02	2·96	3·80	3·46	1·16	1·11	24·46
1890...	2·11	·51	1·77	1·14	1·02	2·74	5·24	1·94	1·15	1·74	4·04	·50	23·90
1891...	1·78	·12	1·39	·70	2·59	1·35	4·81	3·69	·98	3·86	1·65	2·69	25·61
1892...	1·11	1·67	1·58	2·02	1·47	4·82	1·85	3·99	1·71	7·12	2·18	1·05	30·57
1893...	2·38	2·04	·40	·08	·99	1·09	1·80	1·62	·72	1·91	2·78	1·66	17·47
1894...	1·34	1·19	·61	2·52	2·61	2·47	3·11	2·25	1·96	2·31	2·36	2·81	25·54
1895...	2·63	·77	1·52	·96	·64	·38	3·76	4·31	·29	3·52	2·40	1·50	22·68
1896...	1·24	·35	2·54	1·18	·38	1·27	·74	3·78	3·64	3·40	1·41	2·65	22·58
1897...	2·05	2·17	2·23	1·85	1·02	1·82	·86	2·53	2·77	·81	1·25	1·60	20·96
1898...	·93	·93	1·60	1·08	2·79	3·69	1·86	1·20	·16	3·04	2·97	2·29	22·54
Mean ...	1·45	1·35	1·44	1·47	1·56	1·81	2·79	2·37	2·28	3·18	2·37	1·96	24·03
Max. ...	2·63	2·40	3·05	2·52	2·79	4·82	5·24	4·31	5·35	7·12	4·04	3·67	30·57
Date..	1895	1879	1888	1894	1898	1892	1890	1895	1885	1892	1890	1882	1892
Min. ...	·06	·12	·40	·08	·38	·14	·32	·67	·16	·81	1·16	·50	17·47
Date..	1880	1891	1893	1893	1896	1887	1885	1885	1898	1897	1889	1890	1893

But quite as important as the tables, is full information as to the exact mode of taking the observations. The following account has been furnished and revised by Mr. Miller :—

"The evaporator which I have used at Lowestoft differs from the original Wisbech one, only in the inner vessel being surrounded by a stout rim, whence, at intervals of an inch, there are out-curving spikes.

"The inner can is, at the commencement of each month, supplied with 3 inches (occasionally 4 inches) of water, measured by the ordinary rain gauge glass—the sand is thoroughly wetted and the apparatus left.

"It is frequently watched, and if, owing to dry weather, the water becomes low, another inch is added and duly booked. If, on the contrary, much rain has fallen and it is becoming too full, water is lifted by an enamelled ladle into the measuring jar, which is held over the evaporator, until $\frac{1}{2}$ inch (or 1 inch, as seems expedient) has been removed—this transaction is duly recorded.

"At the end of the month the ring and spikes are removed, the water vessel is lifted out of the sand and placed in a large dry basin. The water is then ladled into the measuring jar (and poured thence, for safety, into another glass vessel, so that should re-measurement seem desirable, it can easily be done), this process being repeated until all has been measured.

"The calculation is, of course, very simple, *e.g.*,

	inches.
"Put into the evaporator on 1st... ...	3·00
Added on 13th	1·00
Total rain by 8-in. gauge	1·90
	5·90
In evaporator at the end of month ...	2·81
Evaporation during month	3·09."

There are, of course, difficulties and imperfections in the method. Mr. Miller, quite rightly, remarks that the water must not be shallow, or it will get too hot and evaporate too fast; the vessel must not be nearly full, or there will be out-splashing in time of heavy rain ; the spikes are necessary to keep birds away, but they may tend to keep off rain, or to cause it to be blown from them in big drops into the vessel. The amount of this could be ascertained by

having two similar rain gauges, one with, and the other without, a ring of spikes.

The Strathfield Turgiss copy of this instrument was burst by the first frost, and after repair was repeatedly distorted and burst; but Mr. Miller's never has been. We accept the fact without being able to understand it. Doubtless, the proximity of Lowestoft to the sea makes its winters very different from those at Strathfield Turgiss, and the Lowestoft instrument is of copper, whereas the copy was of zinc; but still it looks to us as if it ought to have burst, only it has not done so during 20 years.

We are, probably, not yet in a position to speak positively as to the result, and the following must be accepted, not as definite and certain, but as an approximation.

We have already mentioned that the experiments at Strathfield Turgiss showed that the Miller pattern indicated 22 per cent. more evaporation than the standard tank. Therefore the Lowestoft values, if reduced in the ratio 122 : 100 ought to represent the evaporation from a tank at Lowestoft. These reduced figures are given in column 3 of the following table. For comparison with them, we give the mean observed from the tank at Strathfield Turgiss during the fourteen years (1870–83). It will be seen that the two totals agree within less than half an inch.

The matter can be tried in another way, by using different data. Column 6 gives the mean evaporation at Camden Square for 12 years (1885–96), but we have always recognised that owing to shelter, and to the smokiness of London, its amount is too small. In *British Rainfall*, 1894, page 21, it was suggested that an addition of 32 per cent. would make it agree with the amount indicated at Otterbourne, but in 1897 the ratio was only 100 : 121, and 25 or 30 per cent. is probably near the truth. Column 7 gives the Camden Square values increased by 25 per cent., and column 8 gives the Lowestoft values as in column 3; the totals are identical.

The two difference columns, 5 and 9, show that for some reason the evaporation from Miller's sand-protected evaporator is more equable throughout the year than that from the tanks—of this we at present see no explanation.

LOWESTOFT & STRATHFIELD TURGISS.					LOWESTOFT & CAMDEN SQUARE.			
	Miller at Lowestoft.		Tank at Strathfield Turgiss.	Difference.	Tank at Camden Sq.		Miller, Lowestoft, Reduced.	Difference.
	Observed.	Reduced.			Observed.	+ 25 p.c. correction for shelter		
1	2 in.	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.
Jan. ...	·41	·34	·14	+·20	·07	·09	·34	+·25
Feb. ...	·65	·53	·22	+·31	·25	·31	·53	+·22
March ...	1·31	1·07	1·04	+·03	·65	·81	1·07	+·26
April ...	2·09	1·71	1·75	—·04	1·52	1·90	1·71	—·19
May ...	3·05	2·50	2·69	—·19	2·35	2·94	2·50	—·44
June ...	3·57	2·93	3·05	—·12	2·94	3·67	2·93	—·74
July ...	3·83	3·14	3·50	—·36	2·81	3·51	3·14	—·37
Aug. ...	3·12	2·56	2·85	—·29	2·10	2·62	2·56	—·06
Sept. ..	2·10	1·72	1·60	+·12	1·18	1·48	1·72	+·24
Oct. ...	1·29	1·06	·78	+·28	·59	·74	1·06	+·32
Nov. ...	·64	·53	·36	+·17	·22	·27	·53	+·26
Dec. ...	·42	·34	·05	+·29	·07	·09	·34	+·25
Year ...	22·48	18·43	18·03	+·40	14·75	18·43	18·43	·00

COMPARISON OF GERMAN & ENGLISH RAIN GAUGES,

AND OF

MR. SIDEBOTTOM'S SNOW GAUGE

AT CAMDEN SQUARE, N.W.

1898	Ordinary English 8 in. gauge.	Ordinary 8 in. gauge reduced by 5 per cent.	Dr. Hellmann's Gauges.				Sidebottom's Snow Gauge.	
			No. 1.	No. 2.	Difference from reduced English.		Total.	Difference from Reduced 8 inch.
					No. 1.	No. 2.		
	in.	in.	in.	in.	in.	in.	in.	in.
Jan.	·73	·69	·67	·67	—·02	—·02	·67	—·02
Feb.	1·08	1·03	1·01	1·01	—·02	—·02	·97	—·06
Mar.	1·46	1·39	1·28	1·29	—·11	—·10	1·39	·00
April	1·01	·96	·91	·91	—·05	—·05	·90	—·06
May	2·26	2·15	2·10	2·10	—·05	—·05	2·09	—·06
June	1·11	1·06	·96	·97	—·10	—·09	·95	—·11
July	1·09	1·04	·97	1·00	—·07	—·04	1·02	—·02
Aug.	1·18	1·12	1·08	1·13	—·04	+·01	1·12	·00
Sep.	·33	·31	·29	·29	—·02	—·02	·30	—·01
Oct.	2·96	2·82	2·83	2·85	+·01	+·03	2·85	+·03
Nov.	1·94	1·84	1·89	1·88	+·05	+·04	1·84	·00
Dec.	2·54	2·41	2·44	2·47	+·03	+·06	2·49	+·08
Total 1898	17·69	16·81	16·43	16·57	—·39	—·25	16·59	—·23
1897	22·86	21·72	21·49 with x	21·58	—·23	—·14	21·61	—·11
1896	23·52	22·34	21·45	22·08	—·89	—·26	21·95	—·39
1895	21·47	20·39	20·05	20·62	—·34	+·23	20·31	—·08
1894	27·94	26·55	26·01	27·11	—·54	+·56	26·48	—·07
1893	19·80	18·82	18·22	18·82	—·60	·00	18·58	—·24
1892	22·61	21·48	21·30	21·81	—.18	+·33		
Mean differences			No. 1 without x ...		—·31	+·06	...	—·19
			No. 2 with x		—·51			

As engravings of the gauges, of which the results are stated above, were given on pp. 27 and 28 of *British Rainfall*, 1893, it does not seem necessary to reproduce them.

As there explained, the German gauges have their receiving

surfaces 5 ft. above the ground, and Mr. Sidebottom's is 3 ft. above ground. The Calne, Strathfield Turgiss, Rotherham, and other experiments would have lead us to expect that the German gauges at 5 ft. would collect 4 per cent. less than a gauge at the ordinary height, and that the Sidebottom at 3 ft. would collect 2 per cent. less.

The above table shows that each is about 6 per cent. less. It will be instructive to consider *why*. The Germans, which should be 4 per cent. short, are nearly 6 per cent. This 2 per cent. is probably accounted for by two circumstances, (1) they are read only on the 1st of each month, and there may be a *little* loss by evaporation; (2) there was a pear tree which *may* have slightly sheltered them,—it is gone and we shall see whether the results change.

The Sidebottom has (*a*) an enormous surface to be wetted before any rain can run into the collector, and (*b*) the bottom of the receiver is much too flat. The first difficulty is unavoidable, and causes considerable loss, probably 3 per cent., the flat bottom is very likely responsible for the remaining 1 per cent., so that even if rectified in that respect the pattern would still collect rather too little; but, for the comfortable and accurate measurement of snow we still think that it is unequalled.

RAINFALL AT THE ROYAL OBSERVATORY, GREENWICH.

Lat., 51° 28′ 38″ N. Long., 0° 0′ 0″

Communicated by W. H. M. CHRISTIE, ESQ., C.B., M.A., F.R.S.,
Astronomer Royal.

1898	No. of Rainy Days.	MONTHLY AMOUNT OF RAIN COLLECTED IN EACH GAUGE.							
		Osler's Anemometer		On roof of Octagon Room.	On roof of Magnetic House.	On roof of Photographic Thermometer Shed.	Gauges partly sunk in the ground.		
		Self-registering Gauge.	Second Gauge.						
Height above Ground.	...	50ft. 8in.	50ft. 8in.	38ft. 4in.	21ft. 6in.	10ft. 0in.	5in.	5in.	5in.
Height above Mean Sea Level.	...	205ft.	205ft.	193ft.	176ft.	165ft.	155ft.	155ft.	155ft.
		in.	in.	in.	in.	in.	in.	in.	in.
January	8	·338	·334	·422	·540	·645	·654	·642	·692
February.....	12	·477	·451	·833	·926	1·120	1·185	1·146	1·192
March	14	·362	·340	·719	1·138	1·293	1·403	1·359	1·347
April.....	10	·538	·517	·711	·788	·891	·928	·894	·920
May.....	22	1·453	1·528	2·075	2·380	2·520	2·640	2·520	2·572
June	11	·960	·955	1·401	1·607	1·761	1·748	1·680	1·764
July.....	9	1·009	·978	1·163	1·266	1·313	1·339	1·265	1·299
August	11	·492	·453	·663	·791	·848	·864	·804	·842
September	5	·179	·167	·254	·285	·296	·305	·270	·287
October	17	2·391	2·481	2·790	2·995	3·155	3·152	3·092	3·111
November	13	1·549	1·661	2·025	2·285	2·391	2·407	2·390	2·401
December	10	1·411	1·321	1·841	2·007	2·171	2·225	2·205	2·255
Sums.....	142	11·159	11·186	14·897	17·008	18·404	18·850	18·267	18·682
No. of Gauge ...	...	1	2	3	4	5	6	7	8

The monthly record terminates at midnight on the last day of the month.
A rainy day is considered to be one on which 0·005 in., or more, is collected in gauge No. 6.
Of the ground gauges 6, 7, and 8, No. 6 is taken as standard, No. 7 is the old monthly gauge, and No. 8 is a gauge added in 1881.

January 27th, 1899.

THE STAFF OF OBSERVERS.

OUR correspondents are becoming more numerous, and their geographical distribution over the country is yearly becoming better. That is the very satisfactory conclusion to be drawn from a study of the details given on the following pages, and partly summarized in the following abstract :—

Number of perfect rainfall records published in the volumes of British Rainfall for the undermentioned years.

Years.	England.	Wales.	Scotland.	Ireland.	Gross Total.	Increase over previous year.
1860...	163	5	—	—	168	—
1861...	334	9	109	20	472	—
1871...	1038	88	311	67	1504	—
1881 .	1548	131	313	153	2145	—
1891...	2091	168	359	181	2799	23
1892...	2113	178	367	192	2850	51
1893...	2205	193	389	200	2987	137
1894...	2269	184	395	195	3043	56
1895...	2304	196	398	186	3084	41
1896...	2427	209	402	181	3219	135
1897...	2492	223	419	184	3318	99
1898...	2545	237	436	186	3404	86
Difference from 1897—						
Increase	53	14	17	2	86	86
Decrease	—	—	—	—	—	

It has been extremely difficult to carry out the correspondence, verification, copying and preservation of the returns from the existing stations, but fortunately our subscribers are increasing, and so with increased staff and accommodation, we hope to do a little more in the direction of equalizing the distribution of the stations, for though Scotland and Ireland are improving, there is room for further development.

We are very glad to welcome especially, the new records from the Fort William and Fort Augustus railway, from Skye, and from Sutherlandshire, and next year we hope to have a somewhat similar improvement from the West of Scotland.

Of the absent records, although we are sorry to lose any, few seem of serious importance. The loss of three returns from the North of Northumberland, just where we were trying to strengthen our staff, increases the paucity of stations in that part of the country.

Although numerically we have gained in Glamorganshire, we have lost our only station in the peninsula of Gower. We do not think it prudent of the authorities at Oban to leave that rising watering place without a single station in the town. We much regret the loss of Dalnaspidal, a station upon the Highland railway, and the sole representative of a large area.

But the gains far outbalance the losses, and so, relying upon the help of our correspondents, we look hopefully for an even better record next year.

MIDDLESEX (66).

ABSENT RECORDS.	INSERTIONS.
Twickenham (Manor Road)—*No reply.*	London (City Road).
,, (Sewage Works)—*No reply.*	Wealdstone House.
,, (,, ,, M)—*No reply.*	,,
Isleworth (Warkworth House)—*Not received.*	
Gunnersbury Station—*Record ceased.*	
London (Gloucester Place, W.)—*Record ceased.*	
Stoke Newington (Cazenove Rd.)—*Record imp.*	
Hornsey (Tottenham Lane)—*No observations.*	
,, (Burghley Road)—*No observations.*	
Stanmore Observatory—*No reply.*	

SURREY (141).

Chiddingfold, M—*Gauge moved.*	Bramley (Grafham Grange).
Walton Heath (The Hermitage)—*Rec. ceased.*	Godalming (Northanger).
Kenley (The Cottage)—*Record ceased.*	,, (Hurtmore Lane).
Ashtead (Caen Leys)—*Observer moved.*	Nutfield Priory.
Sutton (Mulgrave Road)—*Observer dead.*	Send (Woodhill).
	Frimley Green.
	Pyrford (Pyrford Croft).
	Chelsham (Fairchildes).
	Carshalton Sewage Works.
	Surbiton (Vronvelin).
	Egham (Cooper's Hill).

KENT (130).

Appledore (Snargate)—*Record ceased.*
Shepherdswell (Fredville)—*Record ceased.*
St. Peter's (*old gauge*)—*Discontinued.*
Sheppey (Leysdown)—*Observer moved.*
Catford Hill (Avalon)—*Observer dead.*
Benenden (Pullington).
Tunbridge (Penshurst Place).
Deal and Walmer W.W.
Chatham (Luton W.W.).
White Ness (Kingsgate).
Chislehurst (Hawkwood).

WEST SUSSEX (37).

Worthing—*Record ceased.*
Chichester (Little London)—*Observer moved.*
Bognor.
Crawley (Oak Lodge).

EAST SUSSEX (67).

Brighton (Kemp Town)—*Record unreliable.*
,, (Hove)—*Not received.*
Horsted Place—*Not received.*
East Dean (Hill Side).
Eastbourne (Burlington Place).
Bishopstone.
Bexhill (Millfield).
St. Leonard's (West Marina).
Lewes (Fairhall, Southover).
Hurstpierpoint (The College).
Isfield Place—*weekly.*
Burgess Hill (Silverdale Road).
,, ,, (Ote Hall).
Heathfield (Summerlands).
,, (Tottingworth Park).
Uckfield (Sheffield Park).

HAMPSHIRE (101).

Ryde (Town Hall)—*Gauge moved.*
Lyndhurst (Brook)—*Observer dead.*
Alton Grammar School—*No observations.*
Rotherwick (Tylney Hall)—*Observer moved.*
Kingsclere (Tower Hill House)—*No reply.*
Carisbrooke (Rowborough).
Bournemouth (Kempsey, Bath Rd.)
Southampton (Tatchbury Manor).
East Liss (Newlands).
East Tisted.
Grayshott [Hindhead].
Farnborough (The School) M.
Heckfield (Highfield Park).

BERKS (42).

Ascot (Manor Farm)—2*nd gauge—Discontind.*
Newbury (Donnington Sq.)—*Observer dead.*
Arborfield Rectory—*Observer moved.*
Hungerford (Kintbury, Forbury Grove)—*No reply.*
Maidenhead (Castle Hill House)—*Rec. ceased.*
Twyford (Hurst Grove).
Maidenhead (Stafferton Lodge).

HERTS (55).

Watford (Oaklands)—*Observer moved.*
Cheshunt (Old Nurseries)—*Record unreliable.*
Sawbridgeworth (Cowicks)—*Observer moved.*
Great Berkhampstead.
,, ,, (Rose Cottage).
Tring (Elm House).
Knebworth.
Royston (Union Workhouse).

BUCKS (29).

Slough (Upton Park)—*Not received.*
Aylesbury (New Road)—*Record unreliable.*
Woburn Sands (Sandymount)—*Obs. moved.*
Winslow (Botolph House).
Wolverton.
,, (The School House).
Newport Pagnell (Gorefield Vic.).
Olney (Brayfield House).

OXFORD (39).

Caversham (Kidmore Grange)—*Record ceased.*
Thame (Tythrop House)—*No reply.*
Steeple Aston (Hill House)—*No reply.*
Banbury (Ark House School)—*Return imperft.*
Henley-on-Thames (Highmore Vic.)
Chipping Norton (Lyneham).

NORTHAMPTON (52).

Broughton Manor—*Record ceased.*
Barnack (Walcot Park)—*Record unreliable.*
Northampton (St. George's Place).
,, (Freehold Street).

HUNTS (8).

St. Ives (The Priory)—*Record ceased.*
Huntingdon (Bosworth House)—*No reply.*
Huntingdon (Hinchingbrook Gdns.)

BEDFORD (18).

Woburn (Hulcote Rectory)—*Observer dead.*
Biggleswade (Caldecote)—*No reply.*
Shillington.
Woburn (Experimental Fruit Farm)

CAMBRIDGE (41).

Cambridge (Holm Leigh)—*Observer moved.*
Tydd St. Giles—*Observer moved.*
Odsey [Royston]—*2nd gauge.*
Cambridge (Botanic Gardens).
Lolworth Rectory.
Burwell.
Stretham (Dimocks Cote).

ESSEX (66).

Walthamstow (Prospect Hill Lodge)—*Observer dead.*
East Mersea Rectory—*No reply.*
Dunmow (Saling Grove)—*No reply.*
Manningtree Vicarage—*No reply.*
East Ham.
Leyton (Lea Bridge Road).
Upminster Hall, M.
Buckhurst Hill.
Writtle.
Abbess Roding.
Great Clacton (Clay Hall).
Ardleigh.

SUFFOLK (44).

Ipswich (Belstead Hall)—*old gauge—Discontd.*
Woodbridge (Co. Asylum, Melton)—*Rec. ceased.*
Framlingham (Mount Pleasant)—*Obs. moved.*
Bury St. Edmunds (Abbeygate St.)—*Record accidentally burnt.*
Bury St. Edmunds (Fornham St. Martin).
Lowestoft (Lound Pumping Station)
Burgh Hall [Yarmouth].

NORFOLK (57).

Harleston (Rushall Vicarage)—*Observer moved.*
Lynn (Valingers Road)—*Observer moved.*
Dersingham Vicarage—*No observations.*
Tivetshall St. Margaret.
Keswick Old Hall.
Litcham (Mileham Hall).
Burnham Overy.
Holkham.

WILTS (46).

Broad Chalke—*Observer dead.*
Amesbury (Figheldean)—*Record ceased.*
Ludgershall—*Observer dead.*
Trowbridge (Wingfield)—*Observer moved.*
Malmesbury (Charlton Cott)—*Record lost.*
Winterslow (Roche Court)—*new g.*
Ludgershall (Conholt Park).

DORSET (48).

Swanage (Gordon Villas)—*Observer dead.*
Winterbourne St Martin—*Observer moved.*
Dorchester (Fordington)—*Record ceased.*
Poole (Parkstone)—*2nd gauge—Not received.*
Broadwindsor (Hursey House)—*Obs. moved.*
Beaminster (Chedington)—*Observer moved.*
Sandford Orcas Rectory—*Record imperfect.*
Chickerell Rectory.
,, (Montevidio).
Upwey (Broadway).
,, (Westbrook).
Abbotsbury (New Barn).
Wimborne (Codford).
Chedington Court.
Thornford Rectory [Yeovil].

DEVON (108.)

Torquay (Grey's Lodge)—*Observer dead.*
Teignmouth (Bitton Street)—*Record imperfect.*
,, (Woodlands)—*Not received.*
Tavistock (Rose Villa)—*Observer moved.*
Ilsington (Middlecott House)—*Observer dead.*
Budleigh Salterton (Cliff Terrace)—*Obs. moved.*
Branscombe (Hazlewood)—*Observer moved.*
Hatherleigh (Broomford Manor)—*No observt.*
Ivybridge (Langham Hill) *new g.*
Totnes (Fernleigh).
Sheepstor.
Dartmoor (Leeden Tor).
Tavistock (Statsford, Whitchurch).
Coryton.
Yeolmbridge.
Parkham (Melbury Moor).
Bampton (Wonham).
Braunton (Preston House).
Barnstaple (Bratton Fleming).
Martinhoe Rectory.
Lynton (Gwynallt).
,, (Rock House).

CORNWALL (46).

Redruth.
Antony House [Devonport].

SOMERSET (77).

Bridgwater (Farm, Stowey)—*Return imperfect.*
Radstock (Downside College)—*Rec. imperfect*
Axbridge (Loxton)—*Return incorrect.*
Ilminster (Ilton Vicarage)—*8in. g.*
Wincanton.
Stockland Bristol Manor House.
Shepton Mallet (Sew. F., Darshill).
Bath (Fairley Weston).
,, (,, ,,) M.
Flax Bourton (Tyntesfield).

GLOUCESTER (79).

Almondsbury—*Observer dead.*
Tutshill [Chepstow]—*Observer moved.*
Stroud (The Slad)—*Observer moved.*
Clifton College—*2nd gauge.*
Badminton.
Amberley (Highlands).
Woodchester (Culver House).
Stonehouse (Wycliffe College).
Gloucester (Denmark Road).
Chipping Campden (Ebrington).
,, ,, (Hidcote).

HEREFORD (30).

Wyastone Leys [Monmouth]—*No reply.*
Ross (Bishopswood)—*No reply.*
Hereford (Bullinghope)—*Observer moved.*
Bodenham Vicarage—*Return imperfect.*
Hereford (St. Owen Street).

SHROPSHIRE (34).

	Clunbury Vicarage. Hadnall (Hardwick Grange). Oswestry (The Mount Reservoir).

STAFFORD (39).

Handsworth—*No reply.* Knypersley [Congleton]—*Record unreliable.* Leek (Rudyard)—*Record unreliable.*	Stafford (West Bank, Doxey).

WORCESTER (36).

Droitwich—*Not received.* Bromsgrove (Stoke Reformatory)—*Rec. unrel.* King's Heath (Brandwood Ho.)—*No reply.*	Blockley (Upton Wold). Worcester Water Works. Lifford Sewage Works. King's Heath (Cambridge Road).

WARWICK (34).

Alcester (Ragley Hall)—*Record ceased.* Coventry (Stoke)—*No observations.* Castle Bromwich Hall—*No reply.*	Southam (Bascote). Leamington (Cubbington). Coventry (Keresley Grange).

LEICESTER (24).

Rotherby Hall——*Observer dead.*	Loughborough (Forest Rd. Cottage). Harby.

RUTLAND (7).

	Tolethorpe Hall [Stamford].

LINCOLN (70).

Grantham (Heydour Vicarage)—*Obs. dead.* Leadenham—*Gauge unreliable.* Market Rasen (Tealby)—*Not received.*	Stamford (Bleak House). ,, (Northfields). Carrington Grange.

NOTTS (44).

Mansfield (Market Place)—*Return incorrect.* Worksop (St. Cuthbert's College)—*No reply.*	Southwell (Westhorpe Hall).

DERBY (45).

Melbourne (The Grange)—*Observer moved.*
Darley (Whitworth Inst.)—*Not received.*
Strines (Higher Cliffe)—*Gauge moved.*
Willington (S. & A. W. W. Milton)
Derby (Royal Infirmary).
Chesterfield (Linacre Res.)—*Old g.*
Norton [Sheffield].
Ernecroft [Compstall].

CHESHIRE (69).

Chester (Upton Lawn)—*Return incorrect.*
Wilmslow (Southside)—*Observer moved.*
Hoylake (The Chase, East)——*No observatns.*
Wilmslow (Parksyde).
Hoylake (District Council Office).
Mottram Station.
Broadbottom (Harewood Lodge).

LANCASHIRE (190).

Eccles (Worsley New Hall)—*Return incorrect.*
Rochdale (Nayden Filters)—*Not received.*
Over Darwen—*See errata.*
Blackburn (W. W. Office)—*Return imperfect.*
Accrington (Milnshaw Grounds)—*Record [unreliable.*
Warrington (Training College).
Liverpool (Huyton Vicarage).
St. Helen's (Eccleston Hill).
Manchester (Whitworth Park).
Rawtenstall Cemetery.
Barton (Anderton Fold).
Garstang (Fairsnape Clough).
Pilling.
Carnforth (Yealand Conyers).
Silverdale.
Grange-over-Sands (Eggerslack).

YORKSHIRE—WEST RIDING (272).

Sheffield (Brincliffe Rise)——*Record ceased.*
Hebden Bridge (Summerfield)—*No reply.*
Keighley (Mornington Terrace)—*Not received.*
Bingley (Sunnydale)—*Gauge moved.*
Skipton (Gill Grange, Silsden)—*g. tampered with.*
Ben Rhydding (Dunluce)—*Observer moved.*
Ramsgill (Raygill House)—*Record doubtful.*
Rotherham (Ulley Res.)
Langsett—2 *gauges.*
Ossett (Lowood House).
Batley (Woodwell Depôt).
Todmorden (Fielden Hospital).
,, (Sourhall Hospital).
Methley Park.
Halifax (Ovenden Moor).
Pudsey.
Skipton (Counter Hill).
Wetherby (Ribston Hall).
Fewston (Timble Ings).
Harrogate (Bonny Cap).
,, (Wilson's Farm).
West End (Hard Ings).
,, ,, Garden.
,, ,, (Thruscross, No. 2).
,, ,, (Lane Head).
Washburn Dale (High House).
Pateley Moor (Smaden Head).

YORKSHIRE—EAST RIDING (27).

Ganton Hall [Scarborough]—*Not received.*
Cottingham Grange.
Skipwith.
Catton Rectory [York].

YORKSHIRE—NORTH RIDING (39).

Easingwold (Marton Vicarage)—*No observatns.*
Malton—*No reply.*
Hawes (South Lunds School)—*No reply.*
Bowes—*Observer moved.*
Aysgarth Vicarage—*3rd gauge.*
Robin Hood Bay (Fylingdales Vic.)

DURHAM (37).

Darlington (South End)—*Record ceased.*
Bishop Auckland (Mt. Pleasant)—*Rec. ceased.*
Witton-le-Wear (Witton Tower)—*Obs. moved.*
Hartlepool (Heugh Lighthouse)—*Rec. ceased.*
Darlington (Public Park).
Heighington (Walworth Castle).

NORTHUMBERLAND (50).

Newcastle (Clifton Road) M.—*Discontinued.*
Morpeth—*Record lost.*
Whittingham (Callaly Castle)—*Observer dead.*
Wooler (Milfield)—*Record ceased.*
,, (,, Hill)—*Record ceased.*
Morpeth (Stobhill).
,, (Bothalhaugh Garden) M.
,, (Cockle Park).
Ewesley Station (Redpath).
,, ,, (Tod Crag).
,, ,, (Fallowlees).
,, ,, (Chertners).

CUMBERLAND (67).

Boot (Gillbank)—*No reply.*
Cockermouth (Fairfield, Lorton)—*No observs.*
Penrith (Edenhall Vicarage)——*Obs. moved.*
Bassenthwaite (Armathwaite Hall)—*No obs.*
Maryport (Gilcrux)—*Observer ill.*
Carlisle (Rose Castle)—*Record ceased.*
,, (Rickerby House)—*No observations.*
Ulpha School House.
Bassenthwaite (Mirehouse).
Geltsdale.

WESTMORELAND (34).

Kendal (Natland Park)—*Observer moved.*
Milnthorpe (Beathwaite, Levens).

MONMOUTH, WALES, AND THE ISLANDS.

MONMOUTH (28).

Ynysddu (W.W. Pontllanfraith)—*No reply.*
Monmouth (School House)—*Record imperfect.*
Llantilio Crosseny (Brynderi)—*No reply.*
Rumney (Witla Court).
Llanvair Discoed (Penhein).
Chepstow (Mounton Road Res.)
Bettws Newydd (Brynderwen).
Llanvihangel Court—*2nd gauge.*

GLAMORGAN (42).

Penarth (Cwrt-y-Vil)—*Not received.*
Porthcawl (The Rest)—*Observer moved.*
Gower (Penmaen)—*Observer dead.*
Rhondda (Castell-nos Res.)—*Discontinued.*
Crynant (Gelli Dochleithe)—*Recd. unreliable.*
Dowlais (Brynonen, Pant)—*Exposure unsatisfactory.*
Barry W.W. (Dynas Powis Res.)
Llantrisant (Talygarn).
Swansea (Le Mayals).
,, (The Knoll).
Pengam.
Cwmaman.
Rhondda (Pont Lluest Wen Cott.).
Mountain Ash (Darranlas Res.).
,, ,, (Clydach Res.).

CARMARTHEN (8).

Llandovery (Toun).
,, (Neuaddfawr).

PEMBROKE (8).

Haverfordwest (Picton Castle)—*Observer dead.*
Solva.

CARDIGAN (4).

BRECKNOCK (39).

Llandefaelog-fach—*old g. incorrect.*
Crickhowell (Gwernvale).
Llandefaelog-fach, No. 3.
Llanwrtyd Wells (Dolecoed).

RADNOR (20).

Rhayader (Pen-y-gareg).
,, (Craig Gôch).

MONTGOMERY (11).

Welshpool (Park Lane)—*No reply.*

FLINT (9).

| Caergwrle (Bryntirion).
| Bodfari (Henblas).

DENBIGH (20).

Ruthin (Plas Isaf)—*Not received.*
Dolben [St. Asaph]—*Record ceased.*

| Denbigh (Ystrad).

MERIONETH (9).

| Llanbedr (Minafon).

CARNARVON (13).

| Bettws-y-coed (Aberllyn).
| Llanfairfechan.

ANGLESEA (6).

ISLE OF MAN (10).

| Douglas (Elsinore).

ISLES OF SCILLY (2).

St. Mary's—*Same as the preceding entry.* |

JERSEY (2).

GUERNSEY (6).

SCOTLAND.

WIGTON (6).

| Whithorn (Cutroach).

KIRKCUDBRIGHT (17).

Creetown (Cuil Park)—*Observer moved.*

DUMFRIES (13).

Shieldhill (Tinwald Reservoir)—*No reply.*
Moniaive (Maxwelton Garden)—*Not received.*

Langholm (Westwater).
Moffat (Auchen Castle).

ROXBURGH (12).

Hawick (Wolfelee)—*Record imperfect.*

SELKIRK (3).

PEEBLES (6).

Stobo Castle—*Return imperfect.*

Peebles (Swinton Bank).

BERWICK (7).

Earlston (Cowdenknowes).

HADDINGTON (7).

EDINBURGH (29).

Stow (Burnhouse).
Portobello (Joppa).
Edinburgh (Charlotte Square) 2 *g's.*
Davidsons Mains (Broomfield).

LINLITHGOW (4).

LANARK (17).

Carluke (Mauldslie Castle).
Glasgow (Tollcross Park).
,, (Bellahouston Park).

AYR (15).

Ardrossan—*Record unreliable.*
,, (Kirkhall)—*Observer dead.*

Loch Finlas.

RENFREW (26).

Lochwinnoch (Castle Semple)—*Return imperft.*
Paisley (The Coats Observty.)—*Return impft.*
Port Glasgow (Dougliehill Res.)—*Discontind.*
,, ,, (Auchendores Res.)—*Discontd.*

DUMBARTON (4).

New Kilpatrick (Chesters)—*Record ceased.*
Helensburgh (Victoria Road)—*No reply.*

Helensburgh (Fernigair).

STIRLING (19).

BUTE (5).

Kingarth (Plan).

ARGYLL, MAINLAND (16).

Lochgilphead (Poltalloch M)—*Record unreliable*
Oban (The Corran)—*Gauge stolen.*
Ardgour House—*Record interrupted.*

Loch Eil (Conaglen).

ARGYLL, INSULAR (17).

CLACKMANNAN (3).

KINROSS (4).

FIFE (16).

Pittenweem (The Priory)—*No observations.*

Carnock (Craigluscar).
Strathmiglo.

PERTH (32).

Braco (Nether Cambushinnie)—*No observtns.*
Ballinluig—*No reply.*
Dalnaspidal (H.R.S.)—*Record imperfect.*

Glendevon (Glensherup).
Callander (Leny).
Lochearnhead (Ardvorlich).
Perth (Kinfauns Castle Garden).

FORFAR (34).

Hill Head—*Gauge moved.*

KINCARDINE (7).

Fettercairn Manse.
Banchory (Invercannie).

ABERDEEN (15).

BANFF (5).

ELGIN OR MORAY (8).

NAIRN (3).

WEST ROSS (10).

Braemore (Foich Lodge)—*Record unreliable.*

EAST ROSS (9).

Cromarty.

WEST INVERNESS (21).

N. Uist (Loch Maddy)—*No reply.*

Moidart (Kinlochmoidart).
Loch Nevis (Inverie).
Skye (Strathaird).
,, (Raasay House).
,, (Gesto Hospital, Edinbane).
Benbecula.

EAST INVERNESS (13).

Loch Ness (Drummadrochit)—*Observer moved.*
Beauly (Lovat Estate Office)——*No observats.*

Mucomir.
Laggan Locks.
Fort Augustus.
Alvie Manse.

SUTHERLAND (11).

Dornoch.
Loch Naver (Altnaharra).
Tongue (Talmine).
Durness.

CAITHNESS (5).

Stroma.

ORKNEY (11).

Hoy (Graemsay Sound, East-High).

SHETLAND (6).

IRELAND.

CORK (11).

Cork (St. Ann's Hill)—*Record interrupted.*

Mallow (Longueville Field).

KERRY (8).

WATERFORD (8).

Cappoquin—*Record ceased.*

| Portlaw (The Gardens, Curraghmore).

TIPPERARY (8).

| Cahir (Duneske).

LIMERICK (5).

Adare Manor—*Not received.*
Limerick (Roxborough)—5 *in. g. not received.*

CLARE (8).

WEXFORD (7).

KILKENNY (7).

Kilkenny (Lavistown)—*Observer moved.*

| Kilkenny (Millmount).

WICKLOW (6).

| Roundwood (Vartry Lodge).
| Enniskerry (Parknasilloge).

CARLOW (2).

QUEEN'S COUNTY (2).

| Abbey Leix (Pembroke Terrace).

KING'S COUNTY (4).

Parsonstown (Birr Castle)—2*nd g. not. recvd.*

KILDARE (2).

| Monasterevin (Moore Abbey).

DUBLIN (12).

| Kingstown (Tivole Terrace).

MEATH (6).

WESTMEATH (4).

| Athlone (The Moorings).
| Streete (Daramona).

LOUTH (3).

LONGFORD (1).

Edgeworthstown (Currygrane Ho.)—*G. leaky.* |

GALWAY (10).

ROSCOMMON (2).

MAYO (4).

Ballinrobe (Kilrush)—*No reply.* |

SLIGO (4).

LEITRIM (4).

CAVAN (6).

| Killeshandra (Castle Hamilton).
| Ballyconnell House.

MONAGHAN (2).

ARMAGH (5).

Charlmont Lock [Moy]—*No reply.*

DOWN (10).

Lisburn (Union Locks)—*No reply.*

Mourne Mountains (Windy Gap).

ANTRIM (17).

Antrim (The Manse)—*Record interrupted.*

Carrickfergus (Copeland) M.—*Discontinued.*

Belfast (Linen Hall Library).

Antrim (Ardnaveigh).

LONDONDERRY (6).

Limavady—*Observer dead.*

TYRONE (3).

DONEGAL (9).

Rathmullen (Fort Royal)—*Observer dead.*

OBITUARY.

We regret to find that our losses by death this year are numerous, as well as important. As regards numbers, a mortality of 65 out of about 3,000, can hardly be called high—but it is more than the average which we have to record.

It is somewhat invidious to give special reference to some, and not to all,—but some have helped us during only the last few years, whereas others have sent in observations covering more than half a century, and have reported to our volumes from the very first, thirty-eight consecutive years.

Three of the few surviving original contributors to our table for 1860 have passed away this year, marked as usual with a * in the following list. Mr. Prince, F.R.A.S., of Uckfield and Crowborough, whose MS. records, covering 58 consecutive years, and forming one of the best records in the S.E. of England, have happily been left to the Royal Meteorological Society—the best place for all such volumes. The Rev. Canon Slatter, whose records in the vicinity of Reading cover 35 years; and thirdly, Mr. Hale Wortham, of Royston, whose records cover more than half a century. Miss E. Brown, of Cirencester, is credited in the table with only 17 years' observations, because before 1882 the record stood in her father's name, but every one who knew the ability, humility, and liberality of the lady astronomer, would blame us if we refrained from expressing our regret at the loss of one of the kindest women, and the greatest benefactor which the British Astronomical Association ever had.

We have also lost Mr. Coode, of St. Austell, who leaves a record of 34 years, which we are glad to say is being continued by his son.

To the Rev. Canon Du Port we owe much of the development of observations in Norfolk, and to him, and to the proprietors of the *Norfolk Chronicle*, rainfall students are indebted for a unique series of monthly tables of the daily rainfall of the county. A series which we are very glad to say has been continued by the same paper, thanks to Mr. A. W. Preston, F.R.Met.Soc., having volunteered to carry on the late Canon's portion of the work.

There are many others of whose work we should like to speak, but space forbids; we must, however, call attention to the many records exceeding 30 consecutive years. Besides those already

mentioned, there is Col. Lewis's, at Hollington, Sussex (continued by Miss Lewis), Mr. Luck's, at Llanfairfechan, and Col. Waring's (M.P.), at Waringstown, Co. Down, continued by his son.

We have frequently referred to the long life of rainfall observers —this year again proves it. We have the age at death of 37 observers, 21 of them were over 70; 13 over 80; and 3 over 90.

Observers Deceased to July, 1899.

NAMES AND STATIONS.	PERIOD OF OBSERVATION. DATE.	Perfect Yearly Records.
Awdry, Rev. W. H., Ludgershall, Andover	1875-97 T	23
Belk, W., Esq., C.E., Hartlepool	1870, 72, 74-97 T	26
Bernard, Mrs. Percy, Castle Hacket, Tuam	1888-98 C	11
Bostock, Miss, Penmaen, R.S.O., Glamorganshire	C 1890-97 T	8
Bradshaw, Admiral, C.B., The Grange, Steeple Aston, Oxford	C 1883 imp -98 C	15
Brown, Miss E., Further Barton, Cirencester	1882-98 C	17
Burt, F. A., Esq., Gordon Villas, Swanage	C 1892 imp -97	5
Clabon J. M., Esq., Clare Bank, Sevenoaks	1880-91 T	12
Collingwood, F. J., Esq., Glanton Pike, Northumberland	1880-94 T	15
Colman, J. J., Esq. — Carrow House, Norwich	C 1880-98 C	19
Colman, J. J., Esq. — The Cliffe, Corton, Lowestoft	C 1880-98 C	19
Coode, W., Esq., Trevarna, St. Austell, Cornwall	C 1864 imp -98 C	34
Cowper, W. J., Esq., Newbury	1877-98 imp T	21
Deedes, Rev. Canon, Heydour Vicarage, Grantham	C 1865-75, 77-97 T	32
De Wend-Fenton, W. F., Esq., [Aldenham Park] Bridgnorth	C 1884 imp -97 C	13
Du Port, Rev. Canon, Mattishall, Downham	C 1863 imp -84 T	35
Du Port, Rev. Canon, Denver Rectory	C 1885-98 T	35
Elliot, J. Esq., Achumore, Assynt, Sutherland	1880, 1882-89 T	40
Elliot, J. Esq., The Flatt, New Castleton, Roxbgh.	1866-96 T	40
Foster, R., Esq., Rye Hill, Newcastle-on-Tyne.	1869-79 T	28
Foster, R., Esq., Clifton Road ,, ,,	C 1880 imp -97 C	28
Fowler, Sir J., Bt., Braemore, Rossshire	1869-98 T	30
Goodchild, J. E., Esq., Prospect Hill Lodge, Walthamstow	1892-97 T	6
Goode, W. Esq., Mulgrave Road, Sutton, Surrey	1877-98 imp T	21
Gurney, R. H. J., Esq., Northrepps, Cromer	1890 imp -98	8
Hall, Col., Osmington Lodge, Weymouth, Dorset	C 1867-90	24
Haworth, F. E., Esq., Stanley Grange, Wakefield	1891-98 C	8
Hempson, A., Esq., Hill House, Ramsey, Harwich	1892-97 C	6
Henderson, J. M., Esq., Bell Vue, Hamworthy, Poole	C 1890-98	9
Hilson, G. Esq., Sunnyside, Jedburgh, Roxburgh	C 1864-97 C	34
Hutchinson, Rev. Canon, Broad Chalke, Salisbury.	C 1883 imp -98 imp T	14
I'Anson, Dr. T. F., Irish Street, Whitehaven	C 1877-98 C	22
King, The Rev. S., Fir Hill, Droxford, Bishops Waltham, Hants	1874-85 T 1890-98	21
Kirwan, Rev. J. H., St. Johns, Torpoint, Devonport	1875-98 T	24

Observers Deceased to July, 1899—(*continued*).

NAMES AND STATIONS.	PERIOD OF OBSERVATION. DATE.	Perfect Yearly Records.
Kitson, J. H., Esq., Elmet Hall, Leeds	C 1871–98	27
Lark, F. M., Esq., Avalon, Catford Hill, Kent	1893–97 T	5
La Touche, Rev. J. D., Stokesay, Craven Arms, Salop	C 1869 imp –73 T C 1876–98 C	25
Lewis, Col., High Beech, Hollington, St. Leonards-on-Sea	C 1866–98 C	33
Little, W. C., Esq., Stags Holt, March	C 1873–98	26
Luck, R., Esq., Llanfairfechan, N. Wales	C 1864–97 imp T	33
Lyon, A. Esq., Middlecot House, Ilsington, Newton Abbott	C 1866–97 T	32
Macfie, R., Esq., Airds House, Appin, Argyll	C 1856–78 T	49
Appin Ferry	C 1873–98	
McCurrich, J. M., Esq., C.E., The Docks, Bristol	1891–98	8
Marchant, W. E., Esq., Cremyll, Plymouth	1891–98 C	8
Miles, Rev. C. O. Shirehampton, Bristol	1886–88 T	11
Almondsbury, ,,	1890–98 imp T	
Morris, F. W., Esq., Brook Cottage, Little Kimble, Aylesbury	1896–98 T	3
Orr, Rev. A. Salehurst, Hurst Green	1870–78 imp T	21
Cheriton, Alresford	C 1878 imp –91 T	
Page, R., Esq., Down Hall, Bradwell, Southminster, Essex	1877–98	22
Palmer, Mr. G., Penwyllt, Brecon	1889–98 C	10
Peace, A. L., Esq., C.E., Thorne, Doncaster	1883–98 C	16
Piggott, F. W., Esq., Bourne Hill, Horsham	1890–98	9
Pigott, W. G. F., Esq., Abington Pigotts, Royston	C 1888 imp –98	10
*Prince, C. L., Esq., F.R.A.S., Uckfield, Sussex	C 1842 imp –77 C	35
Crowborough, Sussex	C 1871–98 T	28
Renny, T., Esq., Pitlochry, N.B.	1890–94 T 1897–98.	7
*Slatter, Rev. Canon J., Streatley, Reading	C 1862 imp–80 imp T	35
Whitchurch ,,	C 1880 imp –98 T	
Smith, Rev. B. C., Hulcote, Woburn	C 1874–97 T	24
Spencer, Rev. C. V., Wheatfield, Tetsworth, Oxon.	1890–98 C	9
Sturge, E., Esq., Highfield, Charlbury, Oxon.	C 1896–98 C	3
Swan, R., Esq., The Quarry, Lincoln	1879–98	20
Waller, Gerald, Esq., Brook, Lyndhurst, Hants	C 1896 imp –97 T	1
Waring, Col., M.P., Waringstown, Lurgan, Ireland	C 1861–98 C	38
Weir, H. F., Esq., Kirkhall, Ardrossan, N.B.	1876–97 T	22
Welby-Gregory, Sir W. E., Bt., Denton Manor, Grantham	1886–98 C	13
*Wortham, H., Esq., Royston, Herts.	C 1842 imp –98	51
Wright, Weston, Esq., Dalby Grange, Alford, Lincolnshire	1891–98	8
Young, W. B., Esq., The Grove, St. Leonards-on-Sea	1877–98 C	22

NOTE.—C indicates commencement of record and also its continuation, T its termination.

RAINFALL AND METEOROLOGY

OF

1898.

SYMBOLS EMPLOYED.

H.R.S. - -	Highland Railway Station.
H - -	Hail.
L - -	Lightning.
R - -	Rain, Rainfall.
S - - -	Snow.
T - -	Thunder.
TS - - -	Thunderstorm.
TSS - -	Thunderstorms.

ON THE METEOROLOGY OF 1898.

WITH NOTES ON SOME OF THE PRINCIPAL PHENOMENA

[These Notes should be read in conjunction with those on Heavy Rains in 1898.]

JANUARY.

5th—Feb. 2.—*Hereford, Burghill Court* (VI). R only ·16 in. in the 29 days.

6th.—*Pitsford, Sedgebrook* (III). T.

6th—Feb. 5th.—*Stamford, Duddington* (III). Partial drought for 31 days with ·28 in. of R began.

7th.—*Bournemouth, Kempsey* (II). Partial drought for 36 days with ·29 in. of R began.

11th—30th.—*Hawkedon Rectory* (IV). Absolute drought for 20 days.

16th and 17th.—*St. Albans, The Grange* (III). Dense fogs lasting all day.

19th.—*Wakefield, Stanley Grange* (IX). Min. temp., 50°·2, 20° above the average.

19th—20th.—*Cheltenham, Southam Villa* (VI). Min. temp. each day 50°·3, the mean of the two days being 53°·8, which is considerably above the average for May. In the previous 20 years there were only four instances of min. above 50° in the winter months, December to February. These were the warmest winter nights since 1888.

29th.—*Woodbridge Abbey* (IV). Absolute drought for 17 days ended.—*Lifford, Sewage Works* (VI). In 15 minutes ·12 in. of R fell.—*King's Heath, Cambridge Road* (VI). In 16 minutes ·12 in. of R fell.

29th—31st.—*Ffestiniog, New Welsh Quarry* (XI). R in the three days 6·97 in. 5·00 in. of which fell on 29th.

30th.—*Stamford, Northfields* (VII). Absolute drought for 19 days ended.

FEBRUARY.

1st.—*Colmonell* (XIV). T and L.

1st and 2nd.—*Miltown Malbay* (XX). Stormy with T and L.

2nd.—*Oxford, Elsfield* (III). Partial drought for 29 days with ·28 in. of R ended.—*Ashburton, Druid* (V). H, S, T and L.—*Chelford, Astle Hall* (VIII). Gale all day from N.W. with driving R.—*Broadford, Hurdlestown* (XX). Showers of H, S and sleet.

4th.—*Otterbourne, Shawford* (II). Partial drought for 29 days with ·27 in. of R ended.—*Watten H.R.S.* (XIX). Stormy with showers of S sleet and H.—*Miltown Malbay* (XX). Gale with T and L.

4th and 5th.—*Broxbourne* (III). S.

6th.—*New Galloway, Glenlee.* (XII). Heavy S showers.

7th.—*Cheltenham, Southam Villa* (VI). S on the hills.—*Macclesfield, The Park* (VIII). TS with S and H.—*Chelford, Astle Hall* (VIII). S storms all day, high N. wind.—*Maxwelton House* (XII). S, three inches deep.—*Glasgow, Queen's Park* (XIV). S about two inches deep.

13th.—*Watten H.R.S.* (XIX). S.W. to N.W. gale and sleet.

15th.—*Ashburton, Druid* (V). L in night.—*Baldersby* (IX). Strong W. gale.

16th.—*Sudbury, Friars Street* (IV). L at night.

19th and 20th.—*Mullingar, Belvedere* (XXI). S.

20th.—*Coventry, Priory Row* (VI). S, covering the ground one inch deep, followed by sharp frost.—*Southport, Hesketh Park* (VIII). Heavy H which lay upon the ground for some days.—*Chatburn, Middlewood* (VIII). The first S this winter.—*Derry Castle* (XX). Heavy S at night.—*Broadford, Hurdlestown* (XX). S at night, the country white on 21st.—*Galway, Queen's Coll.* (XXII). About two inches of S.—*Tuam, Gardenfield* (XXII). S about two inches deep.

20th—21st.—*Oxford, St. Giles* (III). S.—*Ivybridge, Langham Hill* (V). Rough N.E. gale with a good deal of S.

20th—22nd.—*Tavistock, Whitchurch* (V). S six-and-a-half inches deep on 22nd. The max. fall since March 1891, and drifts on Dartmoor were 15 ft. deep.—*Taunton, The Mount* (V). S eighteen inches deep, yielding 1·26 in. on 21st.—*Clifton, Pembroke Road* (VI). The first S of the winter.— *Unthank Hall* (X). S.

21st.*—*Ryde, Thornbrough* (II). R, S and T.—*Bournemouth, Kempsey* (II). The heaviest S storm since January 18th, 1881, average depth nine inches, yielding 1·60 in. Much damage to trees, &c—*Ems-*

* See also *Met. Mag.*, March, 1898, pp. 17–20.

worth, Redlands (II). R, S and distant T.—*West Dean* (II). S three-and-a-half inches deep.—*Denver* (IV).—The coldest night of the winter, min. 20°·2.—*Bishops Cannings* (V). Four inches of S on the ground.—*Mildenhall* (V). Four or five inches of S.—*Portisham* (V). S yielding 1·45 in.—*Dorchester Water Works* (V). S about sixteen inches deep yielding 1·44 in.—*Poole, Hamworthy* (V). S yielding 1·41 in.—*Blandford, Whatcombe* (V). Heavy S storm at night and in the morning on 22nd.—*Buckhorn Weston* (V). S yielding ·90 in. This is the actual amount caught by the gauge; other measurements gave ·02 in. more.—*Ashburton, Druid* (V). Heavy S all afternoon and evening, depth 8 inches.—*Rousdon Observatory* (V). S fell heavily for 18 hours and the roads were blocked by drifts from 6 to 8 feet deep.—*Empacombe* (V). S yielding ·30 in.—*Yeovil, West Coker* (V). Heavy S storm, yielding 2·10 in. The S was 11 inches deep and many roads were blocked with drifts.—*Ilminster, Bay House* (V). S 16 inches deep, yielding 1·37 in.—*Temple Combe Rectory* (V). S yielding 1·00 in.—*Frome, Orchardleigh* (V). S one foot deep.—*Baldersby* (IX). S and frost.

21st and 22nd.—*Bournemouth, Clarendon Court* (II). Heavy fall of S.—*Bloxworth Rectory* (V). S from 5 p.m. 21st to 11.30 a.m. 22nd, yielding 2·61 in.—*Wellington* (V). Exceptional S storm; S about 18 inches deep, doing much damage, and yielding 1·40 in.—*North Cadbury Rectory* (V). Great S storm averaging 7 to 8 inches in depth and remaining on the ground 4 days.—*Otterford, Otterhead* (V). S from noon on 21st to noon on 22nd. Depth, where not drifted, from 1 ft. 11 ins. to 2 ft. 3 ins..

22nd.—*Christchurch, Winkton Lodge* (II). S four inches deep.—*Wimborne, Rowlands* (V). S 13 inches deep.

23rd.—*Exmouth, Betworth* (V). Six-and-three-quarter inches of S on the ground at 9 a.m., yielding 1·25 in.

25th.—*Watten, H.R.S.* (XIX). Storm of wind and R from S.E.

26th.—*Hazelbury Bryan Rectory* (V). S yielding 1·35 in.

27th.—*West Dean* (II). Sleet and H.—*Broxbourne* (III). T, H and R.—*Slough, Upton* (III). T, L, H and R.—*Cheltenham, Naunton Park Villas* (VI). Sharp TS.—*Cheltenham, Southam Villa* (VI). T, L and H, the first in February for 21 years.—*Ross, The Graig* (VI). Squally with H and distant TS.

28th.—*Odsey* [*Royston*] (III). T and H.—*Horncastle, Hemingby* (VII). R, S and T.—*Stronvar* (XVI). S two inches deep.—*Miltown Malbay* (XX). Stormy with H.

MARCH.

1st.—*Macclesfield, The Park* (VIII). TS and S.—*Chelford, Astle Hall* (VIII). TS at 9 p.m.—*Southport, Hesketh Park* (VIII). L at night.—*Stonyhurst College* (VIII). S, H and R.—*Broughton-in-Furness* (VIII). Violent wind and H showers.—*Meltham, Harewood Lodge* (IX). T and L from 7.20 to 7.40 a.m.—*Castle Lough* (XX). N.W. gale and the hills white with S on the 2nd.

2nd.—*Sudbury, Friars Street* (IV). L at night.—*Douglas, Victoria Road* (XI). N.W. gale with H and S.

2nd and 3rd.—*Llandovery* (XI). S.—*Kilkenny, Sion Villa* (XXI). S and H.

3rd.—*Kensington, Edith Road* (I). S storm towards evening.—*Dowlais, Gwernllwyn* (XI). T and L.—*Hurdlestown* (XX). Ground white with S.

3rd and 4th.—*Drumnadrochit* (XVIII). S.

4th.—*Watten, H.R.S.* (XIX). S and sleet.

5th.—*Stronvar* (XVI). An inch of S and sleet.—*Tuam, Gardenfield* (XXII). Showers of S.

5th—6th.—*Taunton, The Mount* (V). S.

6th.—*Druid House* (V). Heavy S early and showers of S and R all day, blocking roads.—*Dowlais, Gwernllwyn* (XI). S 4 inches deep.

7th—10th.—*Cheltenham* (VI). Ice over open water.

15th.—*Drumnadrochit* (XVIII). Brilliant aurora between 7 and 11 p.m.—*Watten, H.R.S.* (XIX.) Grand aurora at night.

17th.—*Wakefield, Stanley Grange* (IX). Absolute drought for 16 days ended.

22nd—25th.—*Pitsford, Sedgebrook* (III). Squally with S.

23rd.—*Haslemere, Hazelhurst* (II). L and T.—*Dorking, Abinger Hall* (II). T and two vivid flashes of L.—*Emsworth, Redlands* (II). S and distant T.

23rd and 24th.—*Goldsborough Hall* (IX). Very stormy with S, and the ground covered on 25th.—*Baldersby* (IX). S.—*Douglas, Victoria Road* (XI). N.E. gale with S.

23—25th.—*Ludlow, Ashford* (VI). Heavy N.E. gale.

23rd—26th.—*Oxford, Magdalen College* (III). Gales with showers of S.—*Ipswich, Bishop's Hill* (IV). A continuous cold gale from N. and N.E. with S, sleet and R.—*Rendlesham Hall* (IV). Gales and S.

23rd—28th.—*Brampton, Denton House* (X.) Gales from N. and N.E. with S.

24th.—*Tenterden* (II). Four or five inches of S at night, and S or sleet all day on 25th, melting as it fell; total yield 1·14 in.—*Horsmonden, Broad Ford* (II). S, yielding 1·38 in.—*Oxford, St. Giles* (III). Blinding S storms.—*Hatfield Peverel, Cardfields* (IV). S, yielding ·36 in.—*Lexden* (IV). The first S to lie this winter.—*Blandford, Whatcombe* (V). Strong wind from N., with S.—*Druid House* (V). Heavy S, the country white on 25th.—*Penzance, St. Clare* (V). H and S.—*Clifton, Royal York Crescent* (VI). Blizzard.—*Further Barton* (VI). A blizzard.—*Cheltenham* (VI). A blizzard.—*Dowlais, Gwernllwyn* (XI). Blizzard.

24th and 25th.—*Leysdown* (II). Squally with sleet and S.—*Isfield Place* (II). Gale and S.—*Banbury, Bloxham* (III). S.—*Epping* (IV). S.—*Sudbury, Friars Street* (IV). S.—*Launceston, Altarnon* (V). Gale from E.—*Abbots Leigh* (V). Heavy gale and S.—*Ross, The Graig* (VI). Strong gale and violent squalls of S on 24th.

24th—26th.—*Kensington, Edith Road* (I). N.E. gale with S showers and sleet.—*Finchley, Etchingham Park* (I). Drifting S.—*Haslemere, Hazelhurst* (II). Gale with S, which drifted to 8 feet deep in hollow lanes.—*Emsworth, Redlands* (II). N.E. gale with S and R.—*Broxbourne* (III). S.—*Kensworth* (III). Strong gales; heavy S drifts; roads blocked.—*Bishops Cannings* (V.) Terrific N.N.E. wind.—*Mildenhall* (V). Gale and S.—*Tavistock, Whitchurch* (V). N.E. gale and S.—*Lynmouth, Rock House* (V). N. to N.E. gale.—*Wellington* (V). Heavy N. gale.—*Clifton, Pembroke Road* (VI). N.E. gale and T on 24th.—*Campden, Hidcote.* (VI). Stormy with S.—*Hemingby* (VII). Gales with S.—*Chelford, Astle Hall* (VIII). S with N. and N.E. gales.—*Dowlais, Gwernllwyn* (XI). Blizzard from N.E.—*Llandefaelog-fach* (XI). N. and N.E. gales and S showers.

24th—27th.—*Duddington* (III). Gales with S and R.—*Rousdon Observatory* (V). N. to N.E. gales with heavy falls of S.—*North Cadbury Rectory* (V). Protracted and serious N.E. gale, doing damage to thatch and tiles, with blinding S squalls on 24th.—*Coventry, Priory Row* (VI). Very rough and stormy.—*Findern* (VII). Great storm from N.E. with S and sleet.

25th.—*Hailsham* (II). S storm.—*Cross-in-Hand, Homelea* (II). S, yielding ·68 in., and wild, N.W. wind.—*Oxford, St. Giles* (III). N.E. gale and S.

25th and 26th.—*Birchington, Thor* (II). Heavy N.E. gale.

28th.—*Upper Midhope* (IX). Heavy fall of S, yielding 1·00 in. In 2 hrs. 15 min., ·65 in. fell.

28th and 29th.—*Glasgow, Queen's Park* (XIV). S and sleet.

30th.—*Broughton-in-Furness* (VIII). T.

APRIL.

4th.—*Maxwelton House* (XII). Hills powdered with S.

8th.—*Clifton, Pembroke Road* (VI). TS with H.

9th.—*Finchley, Etchingham Park* (I). Heavy shower and T at noon.—*Rendlesham Hall* (IV). T.—*North Cadbury* (V). Gale and furious squalls of R in early morning.—*Long Ashton* (V). Heavy TS. —*Hemingby* (VII). T.

10th.—*Rendlesham Hall* (IV). T, L, R and H.

10th and 11th.—*Emsworth, Redlands* (II). S.W. to W. gale.—*Wellington* (V). S.W. gale.

11th.—*Odsey* [*Royston*] (III). T and L.—*Knaresborough, Farnham* (IX). R 1·26 in.; the heaviest fall since June 1894.—*Colmonell* (XIV). T, L and H.

12th.—*Lyss, Lingwood* (II). T at night.

13th.—*Watten, H.R.S.* (XIX). S.E. gale.

14th.—*Derry Castle* (XX). Distant T with H and sleet.—*Hurdlestown* (XX). T, L and R.

15th.—*Chelford, Astle Hall* (VIII). TS at mid-day.—*Goldsborough Hall* (IX). T.—*Llandovery* (XI). T and H.—*Cork, Wellesley Terrace* (XX). T, L and H.—*Cahir* (XX). T.—*Ballindoney* (XXI). Heavy TS; ·25 in. of R fell in about 45 minutes.

16th.—*Duddington* (III). T and L.—*Stamford, Easton* (III). T and L.—*Dereham, Swanton* (IV). Church struck by L at 5.10 p.m.—A man killed, and two boys injured, by L at *Hanley* (VI).

26th.—*Leysdown* (II). TS.—*Isfield Place* (II). L at 9 p.m.

27th.—*Birchington, Thor* (II). Sharp TS at 4.30 a.m.

27th—29th.—*Forfarshire* rivers becoming in high flood.

28th.—*Leysdown* (II). TS in early morning.—*Ashburton, Druid* (V). T.—*Llandovery* (XI). T.

29th.—*Bloxham Grove* (III). T and H.—*Stamford, Easton* (III). T and L.—*Cheltenham* (VI). T and H.—*Findern* (VII). TSS.—*Southport, Hesketh Park* (VIII). L and T in afternoon.—*Grange-over-Sands, Belmont* (VIII). TSS.—*Broughton-in-Furness* (VIII). T.—*Seathwaite Vicarage* (VIII). TS.—*Meltham, Harewood Lodge* (IX). T in afternoon.—*Goldsborough Hall* (IX). T.—*Knaresborough, Farnham* (IX). T

and L.—*Baldersby* (IX). T, L and H.—*Ulpha School* (X). T and heavy R.—*Llanvihangel Court* (XI). T.—*Glenlee* (XII). T and R.

MAY.

1st.—*Brampton, Denton House* (X). T and L.

2nd.—*Birchington, Thor* (II). T, L and H.—*Empacombe* [*Devonport*] (V). Terrible TS with H; R 1·49 in.—*Penzance, St. Clare* (V). T, L and H.

2nd.—*Plymouth.* A storm of T, L, H and R of exceptional violence soon after 10 a.m. The H was about the size of marbles, and broke many windows; the quantity of H, where converging streets caused it to accumulate, seems to have been very great. It is stated that at the bottom of Albert Road it completely blocked the vehicles, rising to above the level of the axles, so that the horses had to be removed. It was computed, that between 200 and 300 tons of ice had to be removed, and stated, that it took a large number of men all the rest of the day. Probably, what with the size of the H, and what with the squall of wind during which it fell, not much of it was collected by the rain gauges, but according to Mr. Prigg, ·93 in. fell in the first 25 minutes, and ·20 in. in the succeeding twenty minutes, or 1·13 in. in three-quarters of an hour. Walls were washed down and low-lying houses flooded.

3rd.—*Brampton, Denton House* (X). T and L.

4th.—*Invershin* (XIX). T, L and 1·04 in. of R.

8th.—*Miltown Malbay* (XX). T and L.

10th and 11th.—*Logie Coldstone Manse* (XVII). S.

11th.—*Chelford, Astle Hall* (VIII). Gale from W. with heavy showers.—*Southport, Hesketh Park* (VIII). Strong W. gale.—*Miltown Malbay* (XX). T and L.

11th—13th.—*Southport, Hesketh Park* (VIII). H daily.

12th.—*Campden, Hidcote* (VI). T.—*Goldsborough Hall* (IX). T and H.—*Nun Monkton* (IX). S.—*Thixendale* (IX). Slight S.—*Ormesby* (IX). Wet S.

13th.—*Rathmines, Leinster Road* (XXI). T.

13th—15th.—*Dunmanway, Coolkelure* (XX). Sharp night frost, damaging potatoes.

15th.—*Miltown Malbay* (XX). Frost and H.

16th.—*Knaresborough, Farnham* (IX). S and H.

19th and 20th.—*Haslemere, Hazelhurst* (II). N.E. gale and heavy R, 2·52 in. —*Birchington, Thor* (II). Heavy N.E. gale.

19th—21st.—*Douglas, Victoria Road* (XI). Very severe E.N.E. gales, causing great destruction of fruit blossom, &c.

20th.—*Castle Ashby* (III). R 1·32 in., causing a flood in the Nene valley, and damaging hay crops.

20th and 21st.—*Seathwaite Vicarage* (VIII). Strong N. gale.

22nd.—*Isfield Place* (II). L.—*Ryde, Thornbrough* (II). T.—*Stamford, Duddington* (III). T and L at 2 p.m.—*Stamford. Easton* (III). T, L, H and R.—*Alderbury* (V). T; tree struck by L.—*Bishops Cannings* (V). TS in afternoon.—*Mildenhall* (V). T and L.—*West Bromwich* (VI). In 20 minutes ·28 in. of R fell.—*Lifford, Sewage Works* (VI). In six minutes ·14 in. of R fell.—*King's Heath, Cambridge Road* (VI). In four minutes ·12 in. of R fell, and in 3 hrs. 45 min. ·53 in. fell.—*Findern* (VII). TSS all afternoon.—*Chelford, Astle Hall* (VIII). TS hovering about all afternoon; very violent from 9 p.m. to 10.30 p.m. —*Southport, Hesketh Park* (VIII). TS.—*Haverfordwest* (XI). TS.—*Solva* (XI). T and L.

22nd and 23rd.—*Long Ashton* (V). T and H storms.—*Clifton, Pembroke Road* (VI). TSS with H.—*Ross, The Graig* (VI). TSS.—*Hoar Cross* (VI). Very heavy H of unusual size, with T and vivid L.—*Coventry, Priory Row* (VI). TSS.—*Llanvihangel Court* (XI). T and H. —*Dowlais, Gwernllwyn* (XI). T, L and R.—*Llandovery* (XI). T and L. —*Meifod, Tan-y-fron* (XI). TSS, with 2·08 in. of R in the two days.

23rd.—*Horsell, Lindisaye* (II). TS.—*Lyneham* (III). One of the sharpest storms remembered; in a little over half-an-hour, 1·47 in. of R fell, mostly as H, with heavy T about 4 p.m.—*Odsey* [*Royston*] (III). TS and H.—*Cirencester, Further Barton* (VI). Heavy TS from 3 p.m. till 7.30 p.m.—*Campden, Hidcote* (VI). TS.—*Maisemore* (VI). Heavy T and H.—*Cheltenham, Naunton Park Villas* (VI). TSS.—*Alstonfield Vicarage* (VI). Violent TS in E., S.E. and S.W. from 3.30 to 7.0 a.m. —*Meltham, Harewood Lodge* (IX). TS 6.15 p.m. to 8.30 p.m.—*Rathmines, Leinster Road* (XXI). T.

23rd and 24th.—*North Cadbury Rectory* (V). T and L.—*Miltown Malbay* (XX). T and L.

24th.—*Woodgreen* (II). TS.—*West Dean* (II). T and H.—*Alderbury* (V). Violent TS, with 1·45 in. of R, and trees struck in the neighbourhood.—*Salisbury, Tintinhull* (V). Stupendous TS between 1.30 p.m. and 2.30 p.m., with 1·28 in. of R.—*Southport, Hesketh Park* (VIII). TS.—*Cartmel, Broughton Hall* (VIII). In 21 minutes ·28 in. of R fell.—*New Galloway, Glenlee* (XII). T at 1.30 p.m.—*Derry Castle* (XX). T.—*Castle Lough* (XX). T.—*Galway, Queen's College* (XXII). TS.—*Woodlawn* (XXII). TS, with ·80 in. of R in 20 minutes.

24th.—Severe TS at *Tiverton* (V) and in its neighbourhood; much damage by flooding.

25th.—*Dowlais, Gwernllwyn* (XI). Heavy TS.—*Dunmanway, Coolkelure* (XX). Heavy TS.—*Cork, Wellesley Terrace* (XX). T and L.

26th.—*Isfield Place* (II). T.

27th.—*Thixendale* (IX). Min. temp. 25°.

30th and 31st.—*Isfield Place* (II). T, and soft H on the latter day.

31st.—*Horsell, Lindisaye* (II). TS.—*Birchington, Thor* (II). Heavy H and R from N.W. with distant T.—*Kensworth* (III). Sharp H storm.—*Swerford* (III). T, L and H.—*Hemingby* (VII). T and H.—*Goldsborough Hall* (IX). T and H.—*Brampton, Denton House* (X). T and L.—*Rhiwbryfdir* (XI). The Moelwyn range covered with S.

31st.—Whirlwind at *Loughton, Essex* (IV) at 4.15 p.m.; for details see *Quar.Jour.Roy.Met.Soc.*, 1898, p. 213.

JUNE.

1st.—*Birchington, Thor* (II). Distant T and L.—*Broxbourne* (III). T, H and R.—*St. Albans, The Grange* (III). Min. shade temp. only 39°·3.—*Nuneham Park* (III). Heavy H storms.—*Thixendale* (IX). Heavy H storm lasting 30 minutes.—*Brampton, Denton House* (X). Min. temp. 35°, distant hills covered with S.—*Dowlais, Gwernllwyn* (XI). Heavy H storm.

2nd.—*Horsell, Lindisaye* (II). TS.—*Lyss, Lingwood* (II). T.—*Oxford, St. Giles'* (III). T.—*Rendlesham* (IV). T.—*Little Saxham* (IV). Stormy with H and distant T.—*North Cadbury* (V). T.—*Goldsborough Hall* (IX). T.

3rd.—*Kilkenny, Sion Villa* (XXI). Heavy H.

5th.—*Ballindoney* (XXI). Great R storm after 4 p.m., 1·74 in.

6th.—*Broxbourne* (III). T.—*Rendlesham* (IV). TS.—*Great Glenham* (IV). Severe TS.—*E. Ruston Grange* (IV). TS.—*Clifton, Pembroke Road* (VI). TS.—*Baldersby* (IX). T and L at 5.30 and 6.30 p.m., and ·40 in. of R in 20 minutes.

7th.—*Galway, Queen's College* (XXII). L T and heavy H showers.

8th.—*Miltown Malbay* (XX). T and L.

9th—*Great Glenham* (IV). R 1·24 in., the heaviest fall since 1893.—*Lowestoft, The Cliffe* (IV). T, L and 1·31 in. of R.—*Yarmouth, Market Place* (IV). R 1·42 in., mostly falling between 2 a.m. and 5 a.m. on 10th, with T and L; wind N.W. to N.—*E. Ruston Grange* (IV). TS.

9th and 10th.—*Little Saxham* (IV). R began about 9 p.m. on the 9th and was very heavy in early morning of 10th; at 9 a.m. 1·91 in. was measured, R ceased at noon when ·20 in. more had fallen.

10th.—*Bury St. Edmunds, Westley* (IV). Heavy R from the N., 2·30 in. fell in less than 12 hours. No T.—*Norwich, Brundall* (IV). R 1·80 in., being the heaviest fall recorded since July 13th, 1889.—*Stronvar* (XVI). Distant T.

11th.—*Nenagh, Castle Lough* (XX). T.

11th and 12th.—*Tuam, Gardenfield* (XXII). TSS.

12th.—*Ashburton, Druid* (V). T, L and torrents of R in night.—*Tavistock, Whitchurch* (V). Heavy TS in evening and 1·50 in. R.—*Oystermouth* (XI). T and L.—*Llandovery* (XI). T and L.—*Solva* (XI). T and L.—*Nenagh, Castle Lough* (XX). Great TS for 3 hours.—*Broadford, Hurdlestown* (XX). T, L and R from 3 to 6 p.m.—*Galway, Queen's College* (XXII). Severe L and T with heavy showers of H. and R.

12th and 13th.—*Rathmines, Leinster Road* (XXI). T.

14th.—*Glenlee* (XII). T.

15th.—*Banbury, Adderbury* (III). Min. temp. 31°, blackening young potatoes.—*Campden, Hidcote* (VI). Frost.—*Worksop, Hodsock Priory* (VII). Min. temp. below 32° for the first time in June in 23 years.

17th.—*Skye, Strathaird* (XVIII). R 2·00 in. falling in 8 hours.

21st.—*Stronvar* (XVI). T.—*Invershin* (XIX). T.—*Watten, H.R.S.* (XIX). T.

22nd.—*Birchington, Thor.* (II). T and L. at 4 p.m.—*Sheppey, Leysdown* (II). TS.—*E. Ruston Grange* (IV). TS.—*Woodpark* [*Scariff*] (XXII). TS and 1·14 in. of R.

23rd.—*Rendlesham* (IV). T.

24th.—*Bishops Cannings* (V). T.—*Branston Hall* (VII). In 15 minutes ·75 in. of R fell.—*Upper Midhope* (IX). In half an hour ·35 in. of R fell.—*Glenlee* (XII). T.

24th and 25th.—*Thixendale* (IX). TSS.

25th.—*Horsell, Lindisaye* (II) TS.—*Ryde, Thornbrough* (II). T.—*Colchester, Lexden* (IV). T. and H.—*Little Saxham* (IV). TS about 3 p.m.—*E. Ruston Grange* (IV). TS.—*North Cadbury* (V). T.—*Horncastle, Hemingby* (VII). T.—*East Layton* (IX). Severe TS; a house in the village was struck by L and the chimney and roof were damaged.

25th and 26th.—*Wallington* (II). T.—*Emsworth, Redlands* (II).

Distant T and L.—*Southport, Hesketh Park* (VIII). TSS.—*Goldsborough Hall* (IX). T and H on the latter day.

26th.—*Muswell Hill* (I). L and T between 10.30 a.m. and 11 a.m. —*Lyss, Lingwood* (II). T.—*Stamford, Duddington* (III). T.—*Bishops Cannings* (V). T.—*Ashburton, Druid* (V). T and L.—*North Cadbury* (V). T and L.—*Maisemore Lock* (VI). TS with H.—*Cheltenham, Naunton Pk. Villas* (VI). TS.—*Cheltenham, Southam Villa* (VI). T, L and H at 7 p.m.—*Ross, The Graig* (VI). Heavy TS and cattle killed in the neighbourhood.—*Ludlow, Ashford* (VI). TS with very large H. *Beeston Fields* (VII). Heavy TS at 3.30 p.m.; the ground white with H as large as peas; 1·08 in. of R fell in 2 hours—*Llanfrechfa Grange* (XI). T and H.—*Dowlais, Gwernllwyn* (XI). TSS and H.—*Llandovery* (XI). T, L and H.—*Rathmines, Leinster Road* (XXI). T.

JULY.

1st.—*Rendlesham* (IV). TS.

2nd.—*Glasgow, Queen's Park* (XIV). T, H and R.—*Stronvar* (XVI). T.

2nd—17th.—*Stamford, Duddington* (III). Absolute drought for 17 days.

2nd—20th.—*Kington, Gravel Hill* (VI). Absolute drought for 19 days.—*Dowlais, Gwernllwyn* (XI). Absolute drought for 19 days.

5th—22nd.—*Beverley, E. R. Asylum* (IX). Absolute drought.

6th—21st.—*Knaresborough, Farnham* (IX). Absolute drought for 16 days.

11th.—*Invershin* (XIX). T.

17th.—Absolute drought for 16 days ended at *St. Albans, The Grange* (III), *Danbury Rectory* (IV), and *Tavistock, Whitchurch* (V).

18th.—*Chelmsford, Springfield Place* (IV). Absolute drought for 16 days ended.

21st.—*Stamford, Northfields* (VII). Absolute drought for 19 days ended.—*Sandbeck Park* (IX). Heavy R and T commenced about 11 p.m. and continued till 5 a.m. on 22nd, 2·29 in. falling; the largest fall on record here.

22nd.*—*Birchington, Thor* (II). Distant T and L.—*Cirencester, Further Barton* (VI). TS.—*Woodchester, Culver House* (VI). TS.—*Cheltenham, Southam Villa* (VI). TS at 7.30 p.m.—*West Bromwich* (VI). In 20 minutes

* Further details of TSS between this date and August 21st will be found in *Met. Mag.*, Sept., 1898, p. 120 to 122.

·23 in. of R fell.—*Doncaster, Wadworth Hall* (IX). Severe TS, R (measured at 9 a.m. 23rd) 3·18 in.—*Meltham, Harewood Lodge* (IX). TS 6 p.m. to 7 p.m.—*Middlesborough, Ormesby* (IX). Distant T from 4 p.m. to 5 p.m.; R from 5.31 p.m. to 5.40 p.m., ·45 in.; from 5.50 p.m. to 6.7 p.m., ·57 in.—*Llanfrechfa Grange* (XI). T and L.—*Oystermouth, Newton* (XI). TS.—*Killarney, Woodlawn* (XX). T and L.—*Cahir, Duneske* (XX). T.—*Broadford, Hurdlestown* (XX). Distant T and L.—*Woodpark* [*Scariff*] (XXII). TS and 1·14 in. of R. From 11.15 a.m. till noon, ·79 in. fell.

26th.—*Kensington, Edith Road* (I). Very foggy all day.—*Otterbourne, Shawford* (II). Partial drought for 29 days, with ·25 in. of R, ended.—*Alderbury* (V). L.

27th.—*Muswell Hill* (I). TS between 2 p.m. and 4 p.m.—*Abinger Hall* (II). Distant T for nearly two hours.—*Emsworth, Redlands* (II). Distant T in N.E.—*West Dean* (II). TS and H.—*Slough, Langley* (III). TS from N.W., with 1·37 in. of R from 2.15 p.m. to 3 p.m.—*Slough, Upton* (III). Severe TS, with ·74 in. of R.—*Slough, Upton Park* (III). TS; in two hours ·78 in. of R fell.—*Alderbury* (V). T and L.—*Coventry, Priory Row* (VI). T.

27th and 28th.—*Broxbourne* (III). TSS; heavy on the latter day.—*Kensworth* (III). TSS.

28th.—*Birchington, Thor* (II). Distant T and L.—*Sheppey, Leysdown* (II). TS with two heavy showers, which yielded ·25 in. in about 10 minutes.—*Lewes, Saxonbury* (II). In 14 minutes ·32 in. of R fell.—*Christchurch, Winkton Lodge* (II). T.—*St. Albans, The Grange* (III). TS.—*Bloxham Grove* (III). T.—*Stamford, Easton* (III). T and L.—*Colchester, Lexden* (IV). Distant T and L.—*Sudbury, Friars Street* (IV). TS.—*Rendlesham* (IV). TS.—*E. Ruston Grange* (IV). TS.—*Cheltenham, Southam Villa* (VI). T and L in afternoon.—*West Bromwich* (VI). In 25 minutes ·28 in. of R fell.—*Lifford, Sewage Works* (VI). In four minutes ·16 in. of R fell.—*King's Heath, Cambridge Road* (VI). In five minutes ·16 in. of R fell.—*Glasgow, Queen's Park* (XIV). T.

29th—*Cheltenham, Naunton Park Villas* (VI). Frost on grass.

30th.—*Cheltenham, Southam Villa* (VI.) Min. on grass 31°.

30th.—At *Dunnington, Yorks*, the men working in Mr. W. Jacques' field in the afternoon saw a whirlwind form in a corner of the field, and about a cartload of hay was carried up into the air so high that it was barely visible, and finally carried away to the N. Some trees in the field were covered with hay taken up, but which was too far from the centre to be carried right away.

AUGUST.*

1st.—*Skye, Strathaird* (XVIII). 2·34 in. of R fell in 8 hours.

2nd—5th.—*Seathwaite Vicarage* (VIII). R 5·12 in. in the 4 days, causing a high flood.—*Penmynydd Vicarage* (XI). R 2·16 in. in the four days

3rd.—*Chelford, Astle Hall* (VIII). Drenching R all day, 1·17 in., the heaviest fall for years ; very dark at times.

4th and 5th.—*Ambleside, Skelwith Bridge* (X). Between 11 p.m. on 4th and 8 p.m. on 5th 4·12 in. of R fell.

5th.—*Millom, Leyfield* (VIII). T. and L at 3 p.m., R 2·28 in.—*Sedbergh, Brig Flatts* (IX). The greatest R for 20 years, between 9 a.m. and 9 p.m. 1·18 in. fell, and between 9 p.m. and 9 a.m. on 6th, 1·98 in., or 3·16 in. for the 24 hours.—*Sedbergh Cemetery* (IX). R 3·31 in., 2·39 in. falling between 9 a.m. and 6 p.m.—*Brampton, Denton House* (X). R 1·64 in., causing floods which damaged foot bridges and carried away haycocks.

6th.—*Newport Pagnell, Brayfield House* (III). TS lasting 40 minutes, R ·85 in —*Oxford, Magdalen College* (III). Downpour of R in which ·84 in. fell, mostly between 1.15 and 1.30 p.m.—*Oxford, St. Giles'* (III). Heavy R ·93 in., ·75 in. fell in a quarter of an hour.—*Bloxham Grove* (III). TS.—*Sedgebrook* (III). Heavy TS and 1·06 in. of R.—*Duddington* (III). T, L and torrential R 1·22 in.—*Stamford, Easton* (III). T, L and 1·20 in. of R.—*Maxey Vicarage* (III). T and 1·17 in. of R—*Woburn, Experimental Farm* (III). Heavy storm, 1·05 in. of R fell in 30 minutes, —*Longstowe* (III). Tropical R in afternoon, ·95 in. falling in 35 minutes.—*Ely, Stretham* (III). TS and ·95 in. of R in 25 minutes.—*Otterford, Otterhead* (V). In 24 minutes ·53 in. of R fell. *Bridgwater, Stockland Bristol* (V). TS ; R 1·86 in.—*Abbots Leigh* (V). In 6 hours 1·27 in. of R fell.—*Clifton, Pembroke Road* (VI). TS and heavy R, 1·11 in.—*Dursley, Farnley* (VI). TS, R 1·47 in.—*Cheltenham, Naunton Pk. Villas* (VI). TS and 1·54 in. of R.—*Coventry, Priory Row* (VI). R from about 2 p.m. to 7 p.m., 1·19 in., and some distant T.—*Uppingham, West Deyne* (VII). Persistent R from noon till after 9 p.m., total 1·60 in. T 2.30 p.m. to 7 p.m. L at 7 p.m.—*Stainby* (VII). Heavy R for 6 hours continuously 1·50 in.—*Llanfrechfa Grange* (XI). T and L.

7th.—*Tenterden* (II). R 1·07 in. in 10 hours ; max. temp. 54°.—*Minsterley, Hampton Hall* (VI). Very heavy TS. Several cattle

* For further details as to the TSS, Aug. 1–21, see *Met. Mag.*, Sept., 1898, pp. 120–122.

killed by L.—*King's Heath, Cambridge Road* (VI). Incessant R from noon to 7 p.m., ·85 in. ; ·55 in. fell in 1 hr. 30 mins.—*Rugby, Dunchurch Hall* (VI). Exceptionally heavy R which saved the immediate neighbourhood from drought.—*Killarney, Woodlawn* (XX). R ·92 in., chiefly falling in half-an-hour.—*Markree Observatory* (XXII). Heavy shower of H.

8th.—*Ross, The Graig* (VI). TS.—*Chelford, Astle Hall* (VIII). TS from 2 p.m. to 4.30 p.m., heavy R. and darkness, necessitating lights, —*Stretford* (VIII). TS and ·95 in. of R in 30 minutes.—*Seathwaite Vicarage.* (VIII). Heavy TS.—*Knaresborough, Farnham* (IX). T and L.—*Ulpha School* (X). T, H and R.—*Carlisle, Newby Grange* (X). Severe TS.—*Brampton, Denton House* (X). T, L and R.—*Llanvihangel Court* (XI). T.

9th.—*Skye, Strathaird* (XVIII). R 1·63 in., falling in 4 hrs. 30 mins.

10th.—*Douglas, Victoria Road* (XI). Between 2.30 a.m. and 8 a.m., 1·54 in. of R fell.

12th.—*Wakefield, Stanley Grange* (IX). Mean temp. 72°·1, the highest since 1887.—*Stronvar* (XVI). T.—*Watten, H.R.S.* (XIX). TS at night.—*Miltown Malbay* (XX). L.

13th.—*Meltham, Harewood Lodge* (IX). Min. temp. 63°·3.—*Drum nadrochit* (XVIII). T.

15th.—*Muswell Hill* (I). L and T in night;—*Haslemere, Hazelhurst* (II). TS at night.—*Wallington* (II). T and L.—*Ryde, Thornbrough* (II). T.—*Wootton, Fernhill* (II). TS, and ·80 in. of R in about an hour. —*Slough, Upton* (III). TS.—*Bloxham Grove* (III). TS.—*Sedgebrook* (III). TS.—*Duddington* (III). T, L and heavy R.—*Stamford, Easton* (III). T and 1·14 in. of R.—*Bishops Cannings* (V). L.—*Long Ashton* (V). TS.—*Clifton, Pembroke Road* (VI). TS.—*Cirencester, Further Barton* (VI). TS. A house in Cirencester struck by L.—*Woodchester, Culver House* (VI). TS.—*Great Barrington* (VI). TS.—*Cheltenham, Southam Villa* (VI). TS at night, R 1·15 in.—*Coventry, Priory Row* (VI). TS at night.—*Findern* (VII). TS.—*Bolton, The Park* (VIII). Distant T.—*Invershin* (XIX). T.

15th and 16th.—*Broxbourne* (III). T.—*Uppingham, West Deyne* (VII). TS began at 10 p.m. on 15th and lasted without cessation till 9.30 a.m. on 16th. Total R 1·67 in.

16th.—*Finchley, Etchingham Park* (I). TS about 3 a.m.—*St. Albans, The Grange* (III). TS 3 to 4 p.m.—*E. Ruston Grange* (IV). TSS.—*Southam* (VI). Terrific T at night, and 1·17 in. of R.—*Horncastle, Hemingby* (VII). TS in night.—*Carlisle, Newby Grange* (X). Severe

TS.—*Brampton, Denton House* (X). T, L and R.—*Glasgow, Queen's Park* (XIV). T.—*Drumnadrochit* (XVIII). T.

17th.—*Ballachulish, Ardsheal* (XV). Bright aurora.—*Coolkelure* (XX). Very heavy TS 11 p.m. till 3 a.m. on 18th; R 1·35 in.—*Broadford, Hurdlestown* (XX). T, L and heavy R at night.—*Miltown Malbay* (XX). T and L.—*Tuam, Gardenfield* (XXII). TS at night.

17th and 18th.—*Solva* (XI). T and L.—*Cork, Wellesley Terrace* (XX). TS.

18th.—*Finchley, Etchingham Park* (I). L.—*Haslemere, Hazelhurst* (II). TS at night.—*Wallington* (II). T and L.—*Ryde, Thornbrough* (II). T.—*Emsworth, Redlands* (II). N.E. gale and T and vivid L.—*Alderbury* (V). L and T.—*Bishops Cannings* (V). L and T.—*Poole, Hamworthy* (V). TS.—*Poole, Parkstone* (V). Grand TS 3 p.m. to 10 p.m.—*Blandford, Whatcombe* (V). Heavy TS.—*Totnes, Fernleigh* (V). TS lasting, with little intermission, from 11 a.m. to 2 a.m. on 19th; but the R fell in three periods of half-an-hour or an hour each, and was of less value for the land.—*Ivybridge, Langham Hill* (V). Very violent storm of L, H and R; wind N.E. From 9 to 10 a.m., drizzle; between 10 and 10.30 a.m. more than 1·00 in. must have fallen, for although R continued till 11 a.m., when 1·27 in. was registered, little fell after 10.30 a.m. Another TS in afternoon. Total R 2·22 in.—*Meavy, Yelverton* (V). R 2·13 in.: ·75 in. fell in 50 minutes at 10 a.m., ·70 in. in 45 minutes at 3 p.m., and ·64 in. in two hours at 9 p.m.—*Kingskerswell, South Hill* (V). Great TS; R 1·62 in.—*Ashburton, Druid* (V). TS all day, with H and 1·91 in. of R.—*Tavistock, Whitchurch* (V). Severe TS, R 1·90 in.; ·38 in. fell in eight minutes ending 3.53 p.m.—*Bovey Tracey, Colehays* (V). Terrific TS, lasting all day; R 1·50 in.—*Rousdon Observatory* (V). TSS around or overhead all day.—*Romansleigh Rectory* (V). Violent and almost continuous T from 10.30 a.m. to 4 p.m., and from 5 p.m. to midnight. Old inhabitants do not remember such continuous T. R 1·20 in.—*Lynmouth, Rock House* (V). The heaviest TS remembered; R 1·50 in.—*Penzance, St. Clare* (V). T, L and H.—*Empacombe* [*Devonport*] (V). Terrible TS with very large H; R 1·14 in.—*Liskeard, Trevillis* (V). Severe TS.—*Launceston, Altarnon* (V). T, L and 1·20 in. of R.—*Wellington* (V). Terrific TS.—*North Cadbury* (V). Sharp, short TSS about 4 p.m. and 6.30 p.m., followed by furious squalls.—*Long Ashton* (V). TS.—*Woodchester, Culver House* (VI). Slight TS.—*Cheltenham, Naunton Park Villas* (VI). TS.—*Abergavenny, Dyne House* (XI). Heavy TS, with ·70 in. of R between 1 and 2 p.m.—*Oystermouth* (XI). Severe T

and L at intervals all day, and L all night; R 2·73 in.—*Neath, Fairy Land* (XI). Severe TS and 2·47 in. of R; the greatest on record.—*Treherbert, Tyn-y-waun* (XI). Heavy R (1·65 in.) and T.—*Douglais, Gwernllwyn* (XI). Severe TS, with H about $\frac{3}{8}$ in. diameter, began at noon with darkness, making lights necessary. Very vivid L, at times only half-a-second between L and T

R	0.15	p.m.	to	0.45	p.m.	= 30	min.	= ·60	in.	Rate per hour	1·2 in.
,,	2.45	,,	,,	3	,,	= 15	,,	= ·45	,,	,, ,,	1·8 ,,
,,	3·3	,,	,,	3.13	,,	= 10	,,	= ·17	,,	,, ,,	1·0 ,,

Ystalyfera, Wern School (XI). The most severe TS for 20 years, lasting nearly 18 hours; R 2·16 in.—*Llanelly, New Road* (XI). TS and 1·48 in. of R.—*Brecon, The Barracks* (XI). Great TS.—*Mallow, Summer Hill* (XX). TS in early morning, the L almost continuous for four hours accompanied by tremendous R and H, 1·44 in.—*Killarney* (XX). Severe TS.—*Galway, Queen's College* (XXII). L and T.

19th.—*Penzance, St. Clare* (V). L.—*Leicester* (VII). Sharp TS, 6.40 to 7 p.m., total R 1·05 in. in 35 minutes.—*Southport, Hesketh Park* (VIII). TS.—*Broughton-in-Furness* (VIII). T and L.—*Seathwaite Vicarage* (VIII). TS.—*Ulpha School* (X). T.—*Carlisle, Newby Grange* (X). TS at night.—*Brampton, Denton House* (X). T, L and R.—*Glenlee* (XII). L.

19th—21st.—*Douglas, Victoria Road* (XI). T.

20th and 21st.—*Rhiwbryfdir* (XI). Great TS; R 1·29 in.

21st.—*Haslemere, Hazelhurst* (II). TS at night.—*Bloxham Grove* (III). TS.—*Sedgebrook* (III). T.—*Little Saxham* (IV). Vivid L and distant T.—*Bishops Cannings* (V). L.—*Romansleigh Rectory* (V). Much T. At Witheridge H stones of extraordinary size fell.—*Wellington* (V). Slight TS.—*North Cadbury* (V). Distant L and T.—*Long Ashton* (V). TS with vivid L, lasting five hours.—*Clifton, Royal York Crescent* (VI). Tremendous TS, with H of unusual size; even the smaller stones being as big as marbles. It began at 9.45 p.m., and was most violent from 10 p.m. to 10.30 p.m.—*Clifton, Pembroke Road* (VI). Distant TS, and H storm with lumps of ice as big as filberts at 10.15 p.m.—*Further Barton* (VI). TS.—*Woodchester, Culver House* (VI). Slight TS.—*Campden, Hidcote* (VI). TS.—*Cheltenham, Southam Villa* (VI). TS from 7 p.m. to 7.30 p.m., and magnificent sheet L till midnight.—*Upton-on Severn, The Eades* (VI). Exceptionally severe TS, lasting about two hours. The varied colour of the L was beautiful.—*Worcester, Belmont Road* (VI). Grand TS of seven hours' duration.—*Lifford, Sewage Works* (VI). In ten minutes ·20 in.

of R fell.—*King's Heath, Cambridge Road* (VI). In 19 minutes ·21 in. of R fell.—*Coventry, Priory Row* (VI). Heavy TS at night.—*Bedworth Cemetery* (VI). TS with H.—*Findern* (VII). TSS from 8 a.m. to 3 p.m.; L very vivid.—*Chelford, Astle Hall* (VIII). TS about 5.30 p.m., flashes perpetually discharging from cloud to cloud. The storm came on again very violently at night, doing much damage.—*Bolton, The Park* (VIII). T and brilliant L at night.—*Southport, Hesketh Park* (VIII). TS.—*Meltham, Harewood Lodge* (IX). Rather severe TS at night and in early morn of 22nd.—*Goldsborough Hall* (IX). Heavy TS at night.—*Knaresborough, Farnham* (IX). T and L.—*Oystermouth* (XI). Violent TS; one flash of L so close that the observer felt the electrical disturbance. -*Treherbert, Tyn-y-waun* (XI). T.—*Dowlais, Gwernllwyn* (XI). Sharp TS in afternoon and again, with increased vigour at 7 p.m., the L being intense and grand.—*Ystalyfera, Wern School* (XI). Severe TS; very vivid L.—*Solva* (XI). Severe TS.—*Brecon, The Barracks* (XI). Grand display of L.—*Cork, Wellesley Terrace* (XX). T and L.—*Broadford, Hurdlestown* (XX). T and L; a haycock fired.—*Kilkenny, Sion Villa* (XXI). T and L.—*Galway, Queen's College* (XXII). L and T.—*Tuam, Gardenfield* (XXII). TS at night.—*Markree Observatory* (XXII). Distant T and L.

21st and 22nd.—*Wallington* (II). L.—*E. Ruston Grange* (IV). TSS.

22nd.—*Sheppey, Leysdown* (II). Slight TS.—*Emsworth, Redlands* (II). T and L.—*The Clive Vicarage* (VI). Heavy TS about 1 a.m.; cattle killed.—*Beeston Fields* (VII). Vivid L at 1 a.m. and T.—*Abergavenny, Dyne House* (XI) Heavy TS.—*Invershin* (XIX). T.—*Miltown Malbay* (XX). T and L.

24th.—*Miltown Malbay* (XX). T and L.

26th.—*Danbury Rectory* (IV). Absolute drought for 18 days ended.—*Cockermouth, Hassness* (X). Heavy R, 3·25 in. fell in 12 hours.

27th.—*Brampton, Denton House* (X). T, L and R.—*Glenlee* (XII). T, L and heavy showers,—*Colmonell* (XIV). T and L.—*Markree Observatory* (XXII). Distant L.

28th.—*Horsham, Wimblehurst* (II). R ·36 in.; ·24 in. falling in about 15 minutes, and ·12 in. in about eight minntes.—*Beeston Fields* (VII). Frost on grass; the first recorded in August.—*Douglas, Victoria Road* (XI). N.W. gale with tremendous squalls, and H and R.

28th—September 27th.—*Knaresborough, Farnham* (IX). Partial drought for 31 days, with ·26 in. of R.

30th—September 17th.—*Hawkedon Rectory* (IV). Absolute drought for 19 days.

30th—October 12th.—*Hawkedon Rectory* (IV). Partial drought for 44 days, with ·29 in. of R.

31st—September 17th.—*Buntingford, Throcking Rectory* (III). Absolute drought for 18 days.

SEPTEMBER.

3rd.—*Southport, Hesketh Park* (VIII). Distant TS in evening.

4th—8th.—*Brampton, Denton House* (X). Very warm, the max. temp. of the year occurring on 6th.

7th.—*Angerton Hall* (X). An abnormally heavy fall of R (6·70 in.), accompanied by a severe TS lasting about 3 hours. Much damage was done to the highways by the heavy rush of surface water.*—*Cork, Wellesley Terrace* (XX). L.—*Galway, Queen's College* (XXII). L and T.—*Tuam, Gardenfield* (XXII). TS.

8th.†—*Kensington, Edith Road,* (I). Max. temp. 92°·1, the highest on record here.—*Watford, St. Albans Road* (III). Max. temp. 88°, the highest recorded in September, the nearest being 85° on 4th, 1880, 3rd, 1872, and 7th, 1868.—*St. Albans, The Grange* (III). Max. temp. 89°·2, being the max. of the year.—*Ely, Stretham* (III). Very hot, temp. 91° in the shade, similar to September 7th, 1868, when the temp. was 92°.

9th.‡—Brilliant aurora reported from the following stations:—*Burgess Hill* (II).—*Christchurch, Winkton Lodge* (II).—*Sudbury, Friars Street* (IV).—*Tavistock, Whitchurch* (V).—*Rousdon Observatory* (V).—*Ross, The Graig* (VI). [The finest aurora since August 12th, 1880].—*Southport, Hesketh Park* (VIII).—*Seathwaite Vicarage* (VIII).—*Carlisle, Newby Grange* (X).—*Brampton, Denton House* (X).—*Ystalyfera, Wern School* (XI).—*Solva* (XI).—*Colmonell* (XIV).—*Cork, Wellesley Terrace* (XX).—*Miltown Malbay* (XX).—*Kilkenny, Sion Villa* (XXI).—*Tuam, Gardenfield* (XXII).—*Markree Observatory* (XXII).

11th.—*Ashburton, Druid* (V). T and L.—*Tavistock, Whitchurch* (V). Distant TS.—*Penzance, St. Clare* (V). L.—*Ballachulish, Ardsheal* (XV). T and ·45 in. of R in 1 hr. 40 mins.—*Miltown Malbay* (XX). L.

16th.—*Oxford, Elsfield* (III). Absolute drought for 17 days ended.—*Cork, Wellesley Terrace* (XX). T and L.—*Miltown Malbay* (XX). T and L.—*Broadford, Hurdlestown* (XX). L, T and R at night.

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* See special article.

† Respecting these very high temperatures, see *Met. Mag.*, October, 1898, pp. 129–135.

‡ See also *Met. Mag.*, Oct., 1898, pp. 136–138.

17th.—*Otterbourne, Shawford* (II). Absolute drought for 17 days ended.—Absolute drought for 19 days ended at *St. Albans, The Grange* (III), *Danbury Rectory* (IV), and *Woodbridge Abbey* (IV).—*Woodbridge Abbey* (IV). Partial drought for 40 days with ·37 in. of R ended.—*Seathwaite Vicarage* (VIII). L at night.—*Wakefield, Stanley Grange* (IX). Max. temp. 83°·1, the highest on record so late in the year.—*Thixendale* (IX). T.—*Solva* (XI). S.W. gale.—*Tuam, Gardenfield* (XXII). TS; ·25 in. of R fell in about 15 minutes.

17th.—Owing to the extraordinary drought which has prevailed in the Leighton Buzzard district for a considerable time, the water in the Grand Junction Canal between London and Birmingham has become so low that traffic has been seriously impeded, and often, indeed, entirely suspended. Such a state of affairs has not been known for the last fifty years, and coal, corn and granite merchants are suffering very considerably.—*News-cutting.*

18th.—*Chelmsford, Springfield Place* (IV). Absolute drought for 18 days ended.

22nd.—*Miltown Malbay* (XX). T.

27th.—*St. Albans, The Grange* (III). Partial drought for 42 days with ·28 in. of R ended.—*Stamford, Northfields* (VII). Absolute drought for 28 days ended.—*Douglas, Victoria Road* (XI). Tremendous squalls from N.W.

27th.—Owing to the long-continued drought many of the old trees in Windsor forest are dying, and several of the fine shrubs in the famous rhododendron walk, near Cumberland Lodge, have suffered greatly from the absence of rain. Owing to the shrinkage of the ground, one of the Royal lodges, that at Queen Anne's Gate, had to be shored up to prevent it from collapsing.—*Slough Observer*, Oct. 1st.

THE DROUGHT AND WATER SUPPLY.

To the Editor of "The Times."

SIR,—Some six months ago I wrote to you saying that I feared the water supply in many parts of the country would be short during the summer of this year, and this has, unfortunately, proved only too true. I based my prediction on the state of a well at Long Wittenham, Berks, in the upper green sand, which in a record of measurements beginning with 1868 had always shown a rise of water in the first three months of the year, but in this year no rise had taken place. This well has continuously fallen, and is now very nearly dry. I have never known it before with less than 7 ft. or 8 ft. of water during the middle six months of the year. The drought of the past summer has

aggravated, but has not caused, the short water supply, for we have had such droughts before. It is due to the dry time from October, 1897, to April, 1898. The percolation into the deeper water-bearing strata during the six months from April to October is almost *nil*; this is a fact which many people are unaware of. In proof of this I may evidence the measurements of the well in the year 1891:—The well was exceptionally low on January 1st, 1891, but it rose 2 ft. 9 in. by the end of March; from April 1st to October 1st, 14 in. of rain was registered, and yet the well kept continuously falling; October was a very wet month (over 6 in. of rain fell in the month), but the well did not begin to rise till the middle of the month, and then it rose very rapidly. This year only 7 in. of rain has fallen from April to the present time. It will take, therefore, quite 10 in. of rain, or more, to affect the deeper springs. In proof of this I may quote the year 1896, in which the summer drought up to August 19th was as bad as this year. The weather broke then, and from that date to the middle of October we had 10½ in. of rain, and it was not till then that the well began to rise. There has been a great outcry about the water supply in the East-end of London, but, as Mr. Chaplin said in his speech on Saturday last, there are many parts of the country which are worse off than they are. I have been told that on the Oxfordshire Hills people are paying for water by the pailful.

I am, Sir, your obedient servant,

F. C. CLUTTERBUCK.

Culham Vicarage, Abingdon, September 28th.

28th.—*Otterbourne, Shawford* (II). Partial drought for 32 days with ·24 in. of R ended.—*Oxford, Elsfield* (III). Partial drought for 52 days with ·45 in. of R ended.—*Great Paxton* (III). Absolute drought for 30 days ended.—*Seathwaite Vicarage* (VIII). Distant T.—*Thixendale* (IX). H storm.—*Llanfrechfa Grange* (XI), T and L at 1 p.m.—*Treherbert* (XI). H and T.—*Dowlais, Gwernllwyn* (XI). Sharp H storm at midday, accompanied by a little T; H fully ⅜ in. diameter.

29th.—*Haslemere, Lower Street* (II). R 2·42 in., almost all falling in the night. In 23 years there have been only seven falls exceeding two inches.—*Haslemere, Hazelhurst* (II). Heavy R 2·17 in.—*Chiddingfold* (II). Between 6.30 p.m. and 8 a.m. on 30th, 2·31 in. of R fell.—*Chichester, Chilgrove* (II). R 2·09 falling between 5.30 p.m. and 7 a.m. on 30th.—*Liphook, Borden Wood* (II). R 2·18 in., it began about 5.30 p.m. and stopped about 7.30 a.m. on the 30th. The heaviest fall appeared to be between 1.30 a.m. and 3 a.m.—*Blackdown House* [*Haslemere*] (II). Between 6 p.m. and 8 a.m. on 30th, 2·53 in. of R fell.—*Chelmsford, Springfield Place* (IV). Partial drought for 29 days with ·11 in. of R ended.—*Douglas, Victoria Road* (XI). Whole gale from S.S.E.—*Coupar Angus* (XVI). R 1·13 in., the heaviest fall since August 5th, 1895.

OCTOBER.

10th.—*Ryde, Thornbrough* (II). T.—*Middlesborough, Ormesby* (IX). Partial drought for 41 days with ·30 in. of R ended.—*Douglas, Victoria Road* (XI). T.—*New Galloway, Glenlee* (XII). T and L.—*Colmonell* (XIV). L.

11th.—*Sheppey, Leysdown* (II). T.—*Isfield Place* (II). L.—*Broxbourne* (III). H storm.—*Sudbury, Friars Street* (IV). L at night.—*Southport, Birkdale* (VIII). T and L.

12th and 13th.—*Coolkelure* (XX). Between 9 p.m. on 12th and 9 p.m. on 13th, 3·46 in. of R fell.

13th—15th.—*Douglas, Villa Franca* (XX). More than four inches of R fell in the three days.—*Ballindoney* (XXI). Very heavy R. 2·57 in., and heavy gale from E.

13th—18th.—*Launceston, Penleat* (V).—R 7·26 in. in the six days, 5·47 in. falling in the last three. Streams not unusually full, owing to the emptiness of the subterranean reservoirs.

14th.—*Wakefield, Stanley Grange* (IX). Partial drought for 47 days with ·44 in. of R ended; the longest in the last ten years.

14th—16th.—*Glen-na-Smoel* (XXI). R for 3 days, 3·74 in.

14th—18th.—*Douglas, Victoria Road* (XI). N.E. or S.E. gales.

15th.—*Ashburton, Druid* (V). TS in night, R 1·19 in.

15th—17th.—*Kingskerswell, South Hill* (V). R 1·67 in., 1·66 in., and 1·56 in., or 4·89 in. in the three days. On 17th just 1·00 in. fell between 9·30 a.m. and 10·30 a.m.. The road from Newton to Torquay was blocked for ten days by earth washed off arable land on the slope of Milber Hill.—*Ashburton, Druid* (V). R 4·17 in., more than an inch falling on each of the three days.—*Chudleigh, Ideford* (V). R 5·83 in., the previous highest for three days being 3·80 in. in November, 1894.

15th—18th.*—*Bristol, Over Court* (VI). R 5·12 in. in the four days. —*Kington, Gravel Hill* (VI). R 3·48 in.; 1·57 in. falling on the 17th.

16th.—*East Layton Hall* (IX). Loud peals of T.

16th and 17th.—*Emsworth, Redlands* (II). S.W. gale.—*Monmouth, The Hendre* (XI). R, 1·41 in. and 1·74 in.—*Abergavenny, Dyne House* (XI). R 3·28 in.

16th—18th.—*Romansleigh Rectory* (V). In three days 3·24 in. of R fell.—*Launceston, Altarnon* (V). The wettest three consecutive days on record, R 5·55 in. On 17th 2·72 in. fell, being the wettest

* See also *Met. Mag.*, Nov., 1898, p. 154.

day on record excepting August 28th, 1866, when 3·09 in. fell.—*Long Ashton* (V). Heavy and continuous R, 4·42 in.—*Wickwar Rectory* (VI). R 4·03 in., 2·21 in. falling on 18th.—*Lydney, Clanna* (VI). Unprecedented R, the fall each day exceeding an inch; total 3·17 in.—*Shirenewton Hall* (XI). R 5·36 in.; 2·01 in. falling on 18th.—*Llanfrechfa Grange* (XI). Easterly gales, with 4·35 in. of R.

17th.—*Tavistock, Whitchurch* (V). TS.—*North Cadbury* (V). T and L.—*Hemingby* (VII). Gale and R at night.—*Broughton-in-Furness* (VIII). Violent gale from E. with heavy R.—*Goldsborough Hall* (IX). T.—*Knaresborough, Farnham* (IX). T and L.—*Brampton, Denton House* (X). T, L and much R, causing floods.—*Oystermouth, Newton* (XI). T and 2·66 in. of R.—*Linlithgow, Nether Parkley* (XIII). R 2·61 in., since January 1st, 1849, this has been equalled only once (August 21st, 1877, 2·66 in.). On only thirty-five occasions has the R for the day exceeded 1·30 in., and on only ten occasions 2·00 in. Five of these ten were in August, two in September, two in October, and one in June.—*Strathmiglo* (XVI). N.E. to E. gale and 2·02 in. of R.—*Ardee, Lissrenny* (XXI). R 2·12 in., the next greatest fall being 2·10 in. on August 19th, 1889.—*Balbriggan, Ardgillan* (XXI). R 2·45 in., being the greatest ever recorded here.

MINIATURE TORNADO NEAR TORQUAY, OCT. 17TH.

HOUSE ROOF BLOWN OFF.

Torquay was yesterday morning visited by a remarkably heavy downpour of rain and a gale of wind, which at Cockington developed into a miniature tornado. For nearly an hour rain fell in torrents, and in the low-lying parts of the town the streets were covered with water and houses flooded. At Cockington, the gale was the more serious part of the storm. About ten o'clock residents in Sherwell Valley had a remarkable experience. They saw what numerous credible witnesses describe as a whirlwind, with striking accompaniments of fire and smoke. Mr. Levi Powell, the Chelston missioner, was sitting in his house at Sharon, near the beginning of the valley, and hearing a terrific noise, ran to his bedroom window, from which he could obtain a good view. Then he saw tearing up the valley first a cloud of leaves, followed by a volume of smoke, behind which was an appearance as of fire. It whirled round and round in its progress and made a huge noise. Mr. Hole, a baker, was out with his bread cart, and describes the smoke and fire in similar language, while residents in the locality were badly frightened by the appearance of the storm. There are several terraces of new houses in the Sherwell Valley. As the storm whirled along it caught the end of a semi-detached house known as Fairlight Villa and carried the roof bodily off. So violent was the gale that the roof, rafters, slates, and all were hurled a distance of nearly a hundred yards against a tree. Then it parted. One half was carried further up the middle of the valley, where it was deposited amid a

field of rose trees belonging to the Devon Rosery, and the rafters of the other portion fell near the trees. Slates flew in all directions. In one of the terraces on the opposite side of the valley pretty well every house had windows smashed upstairs and down. A Mrs. Benning was sitting at her window overlooking the valley when a slate flew through the glass over her head and pitched in the room. Happily neither slate nor broken glass struck her. Describing her experiences, she says she saw a cloud of smoke and timber flying in all directions. The roof from Fairlight Villa appeared to be coming straight towards her, but was smashed in the tree outside. Some of the slates were carried nearly a quarter of a mile up the valley, and were to be seen after the storm had subsided standing on their edges in the ground. Mr. Triggs, the occupier of Fairlight Villa, was at home alone when his roof was blown off. He says he feared for some time that the door of the house would be blown in. It was fortunate no one was out at the time, for with so many slates flying about some person would almost certainly have been injured. The roof of South View, at the end of Fairhaven Crescent, was also lifted out of position by the storm, and at the top of the hill near Pilmuir several trees were blown down, while the roofs of numerous houses suffered. Some of the people in the locality were so alarmed by the storm that they "thought a train had run away and was rushing up the valley." Shortly after the storm the air was perfectly calm. The rainfall measured nearly two inches.—*Western Morning News*, October 18th, 1898.

ANOTHER ACCOUNT.

A storm of great violence raged in Torquay yesterday morning, accompanied by a deluge of rain. Considerable damage was done in the vicinity. About 10.30 a.m. what appears to have been a tornado struck the Sherwell Valley, Cockington. It was travelling from the S.W. to the N.E., and struck a pair of semi-detached villas close to the school, and proceeded up the valley and stripped the roofs of slates, zinc flats, ridge tiles, and carried them into the Devon Rosery. These houses are owned by Mr. W. Narracott. It seems then to have struck the corner of a pair of semi-detached villas, known as Stoneycroft, owned by Mr. Sanford, and carried a portion of the roof, consisting of framed timbers, to a distance of 150 yards, and landed it in the Rosery. The violence of the storm may be estimated when it is stated that it wrenched a rafter from this roof, and carried it into Pilmuir grounds—a distance of 600 yards. Continuing its course, it seems to have crossed the valley and struck the houses of Fairhaven Crescent, and here an eye-witness declares that it bodily lifted the roof at one corner to a height of eight or nine inches, and then settled it in its place again. This crescent consists of about thirty houses, and not one escaped. The ridge tiles were carried bodily away, the roofs were stripped, and the glass in the windows was blown in. Crossing the road it struck three blocks of six houses each, and acted in the same manner. In one block, known as Muirburn Villas, and owned by Councillor Pike, not a pane of glass seems to have escaped. The force of the wind did not uproot the trees or blow them down, but it twisted the branches from the trunks and carried them long distances. One witness declares that it was like a "bolt from the blue," and the whole thing was over in two minutes. The tornado seems to

have travelled in a N.E. direction, and in Upton Valley (more than a mile distant) a tree was twisted off on a level with the ground. At least fifty houses were damaged to the extent of certainly not less than £200. This appears to have been the extent of the damage done by the tornado in the borough, but, beside the particulars given above, further damage was done to the station end of Cockington, where trees were twisted and broken, not uprooted, and the celebrated "Twin-Tree," outside ex-Mayor Rockhey's residence, was split and otherwise mutilated. The recently-constructed storm-water sewers at Upton have this time prevented a recurrence of the flooding that invariably accompanied heavy rain.—*Western Mercury*, October 18th, 1898.

17th and 18th.—*Ushaw College* (X). R 1·10 in. and 1·05 in. respectively.

18th.—*Dursley, Farnley* (VI). Hard steady R, 2·60 in.

21st.—*Cork, Wellesley Terrace* (XX). S.W. gale at night.

24th.—*Further Barton* (VI). T.

28th and 29th.—*Penzance, St. Clare* (V). T and L and 2·24 in. of R in 26 hours, from 9 a.m. 28th to 11 a.m. 29th.

29th.—*Kensington, Edith Road* (I). Heavy R at night 1·11 in.—*Abinger Hall* (II). TS with vivid L.—*Birchington, Thor.* (II). L and distant T from 9 to 11 p.m.—*Sheppey, Leysdown* (II). Severe TS.—*Lewes, Saxonbury* (II). T, L and heavy R 1·11 in.—*Isfield Place* (II). TS.—*Colchester, Lexden* (IV). T and L.—*Sudbury, Friars Street* (IV). T and L at night.—*Ipswich, Bishops Hill* (IV). TS at night.—*E. Ruston Grange* (IV). TS.

29th.—About 9.45 p.m. there was a very violent local squall at Camberwell Green (in the South of London), details of which are given in the *Quar.Jour.Roy.Met.Soc.*, 1899, p. 19.

29th and 30th.—*Woking, Pyrford Croft* (II). TSS.—*West Dean* (II). Severe gale.

30th.—*Penzance, St. Clare* (V). L.—*Ross, The Graig* (VI). Wye in high flood, 10 ft. 6 in.

NOVEMBER.

1st.—*Cartmel Fell Vicarage* (VIII). The highest flood within living memory, caused by a R of 3·62 in. in 48 hours.—*Seathwaite Vicarage* (VIII). Tremendous flood; the highest and most destructive remembered. R 3·16 in.—*Ulpha School* (X). Heavy flood; R 2·63 in.—*Cockermouth, Hassness* (X). Rain gauge flooded; the lake and streams higher than ever before remembered.—*Keswick, Barrow House* (X). In 13½ hours from 7 p.m., 3·50 in. of R fell.—*Douglas,*

Victoria Road (XI). Furious wind from S.S.W. and torrential R.—*Dalbeattie, Little Richorn* (XII). A heavy flood, doing some damage. —*Maxwelton House* (XII). R 2·22 in. ; with one exception the greatest fall in 12 years, and the highest flood remembered.—*Ballachulish, Ardsheal* (XV). R 3·40 in. ; the greatest fall recorded in 24 hours.—*Balquhidder, Stronvar* (XVI). R 3·67 in. ; the greatest ever recorded in 24 hours.

1st and 2nd.—*Ambleside, Skelwith Fold* (VIII). R 3·52 in. and 2·52 in., causing the biggest flood man can remember ; probably 4·50 in. fell in 12 hours from midnight on 1st.—*Keswick, Shu-le-Crow.* (X). Great damage was done by R, the height of the flood in the Keswick valley exceeding that of October 28th, 1888. Landslips in Coledale, Braithwaite, and on the Keswick to Ambleside high-road, eight miles from Keswick. From the side of Helvellyn many thousand tons of debris, blocked the new road made by the Manchester Corporation.—*Cockermouth, Brandlingill* (X). In 48 hours 4·18 in. of R fell, 2·73 in. falling on 1st.—*Wigton, Brookfield* (X). From 10 p.m. on 1st to 10 p.m. on 2nd, 2·34 in. of R fell.—*Ambleside, Skelwith Bridge* (X). Between 4.30 p.m. on 1st and 1.30 p.m. on 2nd, 6·14 in. of R fell.

2nd.—*Sheppey, Leysdown* (II). Heavy gale.—*Cockermouth, Ullock* (X). The river Marron was higher than it had been since the autumn of 1872.—*Kendal, Helm View* (X). The highest flood on record, being 12 inches higher than the 1878 flood. R 1·52 in. on 1st and 2·06 in. on 2nd.—*Kendal, Holmcroft* (X). From 8 a.m. to 2 p.m., 1·99 in. of R fell. The Kent rose very rapidly and flooded the town, doing great damage. The river had not been so high for 60 years.—*Ullswater, Sharrow Bay* (X). The lake rose about four feet in 24 hours.—*Pontypridd, Maesderwen* (XI). R 3·19 in. ; 2·24 in. falling between 9.30 and 11.30 a.m.—*Glenlair* (XII). R 2·20 in., and one of the heaviest floods ever known in this district.—*Colmonell* (XIV). L.

THE STORMY WEATHER.

SERIOUS FLOODS IN THE LAKE DISTRICT.—BRIDGES SWEPT AWAY AT KENDAL. EXTENSIVE DAMAGE.

The heaviest flood known for the past thirty years occurred in the northern part of the Lake District yesterday. A storm of rain and wind from the south-west had prevailed during the whole of the previous night, and it continued more or less in gusts during yesterday. The rainfall during twenty-four hours in Keswick was close upon three inches, but on the fells it would be considerably greater. As Thirlmere was at its full height and unable to retain the

enormous gathering of the watershed, the overflow had to come by St. John's beck to Keswick. The Glenderamakin, and other tributaries of the Greta were also much swollen. Low-lying farmsteads in the neighbourhood of Threlkeld suffered under the flood, and the water, like a river, rushed down the railway so deeply at Threlkeld station as to cover the rails. In some cases stock must have been lost, because several carcases of sheep and one cow were seen to pass under the bridge in Station Road, Keswick. There was also a heavy flood in the vale of Naddle. At Keswick, Fitz Park was partially covered. Many houses were flooded, the water running through some. The new High School was inundated, and the scholars, unable to leave by the regular road, were obliged to cross a garden to get into Stanger Street. Derwentwater and Bassenthwaite became one great lake, as all the intervening meadow land was covered. Serious damage was done at Lodore Hotel through the overflow of the falls, and the road to Borrowdale was impassable. The dam burst behind the Pencil Mill at Braithwaite and inundated a number of houses, and it was reported that Powe Bridge, between Keswick and Braithwaite, had been partially washed away.

During the whole of Tuesday night and throughout yesterday rain descended in torrents in South Westmoreland, and at a very early hour yesterday morning the river Kent at Kendal was in high flood, with every prospect of rising. By two o'clock in the afternoon it had reached a height never previously exceeded —in fact, the water was higher by 12 in. than in the record flood of 1874. The result was tremendous damage to property and loss of agricultural stock. The scene was one of the most remarkable character. Part of the town lies very low, houses being built to the edge of the river almost throughout the town. These were quickly surrounded by water, and the main thoroughfare to the station was impassable on foot. Stramongate, which leads from the centre of the town to the railway station, was covered in the lower parts to a depth of four or five feet, a postal pillar box being entirely out of sight. The shops were all flooded, the water in some places being over the counters. In one case, that of a fruiterer and confectioner, where the door had been left open, the articles in the shop were washed out in wholesale fashion and floated about the street. The communication between some parts of the town was entirely cut off by the water, which was six feet above the level of the river's bank. Some exciting scenes were witnessed where persons living near the river were rescued by being lifted from the bedrooms on to the roofs of cabs. In the afternoon carcases of all kinds of agricultural animals, hen-roosts, and other *débris* were borne down on the torrent, which dashed against the bridges in the town threatening their destruction. A wooden one was washed away. Many of the manufacturies were entirely surrounded by water and the employés were prevented from going to work, and the scholars at Castle Street Girls and Infants' School had to be carried in the arms of their parents, who waded in three feet of water. The extent of the damage cannot yet be estimated. A later telegram says :—At eight o'clock last night the water had subsided to a great extent, and a better idea of the damage could be obtained. It has been greater than anticipated, valuable machinery having been spoiled in mills, farm buildings partly destroyed, two bridges in Kendal—one a strong iron structure—carried away, and the stone bridges and walls in the route of

the Kent's tributaries nearly all broken down by the force of the water. The damage to tradesmen's stock will exceed £2,000, and altogether it is thought that the damage cannot be less than £10,000. Hundreds of acres of land are still covered by water.—*Manchester Guardian*, November 3rd, 1898.

COCKERMOUTH.

EXTRAORDINARY RESULT OF THE FLOODS.

Cockermouth seems to have suffered most from the result of Wednesday's rain. The Derwent rose to the highest point known since the great flood of 1852.

A temporary dam was constructed, and an enormous head of water collected behind it. Late at night the dam was swept away, and the water poured in great volume down the road into a thickly-populated working-class area, surrounding houses to the height of the window sills.

Yesterday the dwellings were in the midst of a great lake, which was still being fed by the river. Early in the morning one of the houses collapsed and the inmates narrowly escaped with their lives. They were alarmed by loud cracks, and fled to another room in the upper part of the house. They had scarcely reached this place when the roof and side walls of the rooms they had left fell in, while the other half of the house rocked dreadfully. This portion, however, stood, and there they remained for five hours, at the end of which time they were rescued by neighbours.—*Daily Mail*, Nov. 4th, 1898.

WINDERMERE.

Owing to the excessive rains of the last few days, the lake has continued to rise, and it eventually reached a height one foot higher than the highest previously recorded.

3rd.—*New Galloway, Glenlee* (XII). T and L.—*Glasgow, Queen's Park* (XIV). T.—*Invershin* (XIX). T and L.—*Markree Observatory* (XXII). Distant L.

3rd—5th.—*Southport, Birkdale* (VIII). Fresh W. gales.

5th.—*Isfield Place* (II). L.—*Sudbury, Friars Street* (IV). L at night. —*New Galloway, Glenlee* (XII). T.

12th.—*Dowlais, Gwernllwyn* (XI). L.—*Solva* (XI). T and L.—*Abergwesyn Vicarage* (XI). L in night.

14th.—*Bolton, The Park* (VIII). Dense fog.

18th.—*Inverarity* (XVI). R 2·04 in., a very unusual quantity.

20th.—*Emsworth, Redlands* (II). Distant T.—*Ballachulish, Ardsheal* (XV). Aurora.

20th—26th.—*Haslemere, Hazelhurst* (II). R 4·11 in.; 2·35 in. falling on 23rd.

21st.—*Wallington* (II). Intense darkness from 9·30 to 11 a.m.

21st and 22nd.—*Hemingby* (VII). S.—*Colwyn Bay, Ingleside* (XI). S.E. gale and S showers. The bar. fell ·78 in. in ten hours.—*Invershin* (XIX). S.—*Watten, H.R.S.* (XIX). H, S and sleet.

21st—26th.—*Glen-na-Smoel* (XXI). R for the six days, 7·86 in.

21st—27th.—*Hazelbury Bryan* (V). R 4·61 in.; 2·05 in. falling on 23rd and 1·50 in. on 24th, with T and L on both days.

22nd.—S at the following stations: *Steeple Aston, The Grange* (III). —*Bloxham Grove* (III).—*Pitsford, Sedgebrook* (III).—*Further Barton* (VI).—*Woodchester, Culver House* (VI).—*Great Barrington* (VI).—*Hoar Cross* (VI).—*Bedworth Cemetery* (VI).—*Macclesfield, The Park* (VIII). [S. and S.E. gale].—*Broughton-in-Furness* (VIII). [About a dozen measurements, where undrifted, gave an average depth of five inches]. —*Hawkshead, Esthwaite Lodge* (VIII).—*Seathwaite Vicarage* (VIII). [Average depth ten to twelve inches].—*Meltham, Harewood Lodge* (IX). [First S; six inches].—*Nun Monkton* (IX).—*Knaresborough, Farnham* (IX). [Nine inches deep].—*Baldersby* (IX).—*Eskdale* (X).— *Cockermouth, Hassness* (X).—*Borrowdale, Grange* (X).—*Keswick, The Bank* (X). [Yielding ·26 in.].—*Llanvihangel Court* (XI).—*Treherbert* (XI).—*Dowlais, Gwernllwyn* (XI). [Five inches].—*Llandefaelog-fach* (XI).—*Rhayader, Nantgwillt* (XI). [An inch-and-a-half deep].—*Craig-end Castle* (XV). [Three inches deep].—*Stronvar* (XVI). [Ten inches deep].—*Dunkeld, Inver Braan* (XVI).—*Mullingar, Belvedere* (XXI).

22nd—23rd.—*Emsworth, Redlands* (II). S.W. gales.

22nd—24th.—*Otterford, Otterhead* (V). In three days 5·30 in. of R fell; 3·35 in. falling on 23rd.—*Upper Midhope* (IX). Heavy S and sleet.

22nd—25th.—*Otterford, Otterhead* (V). R in the four days 5·61 in.; 3·35 in. falling on 23rd, and 1·37 in. on 24th. T and L on 24th and 25th.

23rd.—*Haslemere, Hazelhurst* (II). R 2·35 in.—*Charterhouse, Hartmore Lane* (II). R 1·99 in.; the greatest fall on record here.—*West Dean* (II). S and sleet.—*Itchen Stoke* (II). R 2·08 in.; the greatest fall on record.—*Swerford* (III). Three inches of S with S.E. wind, followed by 1·20 in. of R.—*Salisbury, Wilton House* (V). R 2·10 in.; 2·00 in. falling in 12 hours.—*Wellington, The Avenue* (V). Gale from S. and 2·03 in. of R; the heaviest fall recorded in seven years.— *Lechlade* (VI). S.—*Ross, The Graig* (VI). Violent gale from S, with S and R.—*Alstonfield Vicarage* (VI). In a few hours 13 inches of fine S fell.—*Coventry, Priory Row* (VI). S two or three inches deep.— *Beeston Felds* (VII). Wet S three inches deep.—*Hodsock Priory* (VII). S about four inches deep, and drifted.—*Chelford, Astle Hall* (VIII). Three inches of S on the ground, and S and sleet all morning, with gale from S.E.—*Southport, Birkdale* (VIII). Strong S.E. wind and drifting S for eight hours, average depth six inches, yielding ·52 in.

—*Wakefield, Stanley Grange* (IX). S five inches deep, followed by R, yielding ·83 in.—*Falling Royd* (IX). Nine inches of S.—*Goldsborough Hall* (IX). S nearly all day, and cold E. wind.—*Knaresborough, Conyngham Hall* (IX). S nearly one foot deep.—*Ulpha School* (X). Ten inches of S.—*New Galloway, Glenlee* (XII). S seven inches deep. —*Glasgow, Queen's Park* (XIV). About two inches of S.—*Strathmiglo* (XVI). About eight inches of S and a good deal of drifting, followed by R; total 1·51 in.—*Moore Abbey Gardens* (XXI). R at night and in early morn of 24th; 1·32 in.—*Straffan House* (XXI). R 2·50 in.; 2·00 in. fell in about eight hours.—*Killiney, Cloneevin* (XXI). R 2·06 in.; the largest ever recorded, and causing flooding of houses. —*Rathmines, Terenure* (XXI). In 17 hours 2·00 in. of R fell.— *Rathmines, Leinster Road* (XXI). R 1·94 in.; being the greatest since the record began.

23rd—25th.—*Lyndhurst, Fritham House* (II). R 3·51 in.; 2·03 in. falling on 23rd.—*Ballina* [*Killaloe*] (XX). In three days 3·30 in. of R fell.

23rd—26th.—*Enniskerry, Parknasilloge* (XXI). In four days six inches of R fell.

24th.—*Ashburton, Druid* (V). L.—*North Cadbury Rectory* (V). T and L.—*Llanfrechfa Grange* (XI). S two-and-a-half inches deep.

25th.—*Isfield Place* (II). H.—*Stamford, Duddington* (III). Welland swollen and slight floods.—*Solva* (XI). T and L.

26th.—*Blandford, Whatcombe* (V). TS.—*Rathmines, Leinster Road* (XXI). T.

27th.—*Skye, Strathaird* (XVIII). S.

28th.—*Abinger Hall* (II). S.—*West Dean* (II). S.—*Seathwaite Vicarage* (VIII). Intense frost.—*Goldsborough Hall* (IX). S.—*Borrowdale, Grange* (X). S.—*Abergwesyn Vicarge* (XI). S.—*Douglas, Victoria Road* (XI). S.

29th.—*Burgh Castle Rectory* (IV). R 2·47 in.—*Bolton, The Park* (VIII). S.—*Broughton-in-Furness* (VIII). Slight S.

DECEMBER.

1st.—*Maybole, Sauchrie* (XIV). 1·78 in. of R fell almost entirely between 3 and 5 a.m., causing the biggest flood remembered.

1st and 2nd.—*Dumbarton, Leven Shipyard* (XV). R 1·98 in. and 1·12 in. respectively.

1st—6th.—*North Cadbury* (V). Exceedingly warm with high

minima and excessive humidity. For nearly 60 hours, from 4th to 6th, the temp. varied only from 57°·0 to 51°·5.

2nd.—*Emsworth, Redlands* (II). S.W. to W. gale.

3rd.—*Miltown Malbay* (XX). L.—*Lawderdale* (XXII). S.W. gale. —*Belfast, Springfield* (XXIII). T and L.

3rd—6th.—*Wakefield, Stanley Grange* (IX). The shade temp. was continuously above 50° from noon on 3rd to 3 p.m. on 6th, the max. on 5th 59·5, being the highest December reading for fifty years.

4th—6th.—*Monmouth, School House* (XI). The min. in shade was above 50° each day, that of 6th being 54°·9.

5th.—*Eastgate, All Saints' Vicarage* (X). Min. temp. 53°, said to be the highest in December for forty years.

5th and 6th, —*Kensington, Edith Road* (I). Min. temp. 53°·0 and 53°·6.

5th.—During the last few days nearly all the rivers of Central Scotland have overflowed their banks, and the low-lying portions of many towns are under water. The flooding at Perth induced a correspondent to give in the *Scotsman* of Dec. 10th notes of some of the principal floods on record in that city, viz., in 1210, 1621 and 1774.

6th.—*Carlisle, Newby Grange* (X). L.—*Solva* (XI). H.—*Pool Quay Vicarage* (XI). Min. temp. in shade 54°·0.—*Galway, Queen's College* (XXII). H.

7th.—*Sudbury, Friars Street* (IV). L at night.—*Ashburton, Druid* (V). Heavy H shower.—*Tavistock, Whitchurch* (V). L at 10.25 p.m.— *Hemingby* (VII). T.

9th.—*Stamford, Duddington* (III). Welland swollen and low lying lands flooded.—*Tavistock, Whitchurch* (V). S.W. gale with T and H.

10th.—*Invershin* (XIX). Hurricane from S.W.

13th.—*Watten, H.R.S.* (XIX). W. gale at night.

14th.—*Ross, The Graig* (VI). Remarkable red aurora at 3 a.m.

18th.—*Watten, H.R.S.* (XIX). S.E. gale.

18th and 19th.—*Bettyhill* (XIX). Showers of H.

19th.—*Corwen, Rhug* (XI). S.—*Forres, H.R.S.* (XVII). S showers.

21st.—*Chelford, Astle Hall* (VIII). Dense fog all day.

21st—23rd.—*Melness, Talmine* (XIX). A little S.

21st—24th.—*Broxbourne* (III). Fog daily.

26th.—*Abinger Hall* (II). Strong S.W. gale.—*Dowlais, Gwernllwyn* (XI). Exceptionally stormy with 2·82 in. of R.—*Aberystwith, North Parade* (XI). R 2·44 in., the greatest fall in six years.—*Builth, Tan-y-berllan* (XI). Severe gale and 1·79 in. of R.—*Drumnadrochit*

(XVIII). Distant T about 10 a.m.—*Cork, Wellesley Terrace* (XX). W.S.W. gale.—*Hurdlestown* (XX). L at night.—*Galway, Queen's College* (XXII). H with L and distant T.—*Lawderdale* (XXII). S.W. gale.

27th.—*Broxbourne, Stafford House* (III). S.W. gale.—*Stamford, Duddington,* (III). Gale with heavy squalls and H.—*Rendlesham Hall* (IV). S.W. gale—*Sturminster Marshall, Bailie House* (V). Gale all morning, culminating in a tremendous storm of wind and R with slight H at 0.15 to 0.30 p.m.—*Further Barton* (VI). S.W. gale.—*Wem, Clive Vicarage* (VI). Field drains running for the first time for many months.—*Lifford, Sewage Works* (VI). In six minutes ·11 in. of R fell.—*Kings Heath, Cambridge Road* (VI). In five minutes ·12 in. of R fell.—*Abergwesyn Vicarage* (XI). R and H.—*Ballachulish, Ardsheal* (XV). Fresh S.W. gale.—*Invershin* (XIX). Hurricane from S.E.—*Caher, Duneske* (XX). Very stormy from S.W. with T and L. —*Hurdlestown* (XX). R and H, showers all day.—*Miltown Malbay* (XX). T, L and H, with gale from W. to N.—*Tuam, Gardenfield* (XXII). TS ; the church steeple damaged by L.—*Belfast, Springfield* (XXIII). Heavy gale but not much damage.

28th.—*North Cadbury* (V). Brilliant lunar rainbow at 6.15 p.m. Prismatic colours quite vivid at the extremities, and the secondary bow faintly visible.—*Ross, The Graig* (VI). High flood on the Wye, 10 ft. 6 in. to 11 ft.—*Dowlais, Gwernllwyn* (XI). S, H and R.—*Caher, Duneske* (XX). S.

30th.—*Tavistock, Whitchurch* (V). Gale from N.N.W. Lunar halo. —*Bettyhill* (XIX). S.—*Galway, Queen's College* (XXII). Heavy squalls and H.—*Lawderdale* (XXII). W. gale.

30th—31st.—*Watten, H.R.S.* (XIX). S.E. gale.—*Miltown Malbay* (XX). T, L and H.

31st.—*Broxbourne, Stafford House* (III). L.—*Stamford, Duddington* (III). S and R.—*Tavistock, Whitchurch* (V). S.W. gale. Solar halo. —*Hemingby* (VII). S most of the day.—*Baldersby* (IX). S.—*Ballachulish, Ardsheal* (XV). S gale.

OBSERVERS' NOTES ON THE MONTHS.

JANUARY.*

I. *Kensington, Edith Road.* Extremely warm and dry; temp. 6°·3 above average, but slightly exceeded in 1884. R an inch below the average.—*Muswell Hill.* R 1·29 in., or 60 per cent., less than the average of 26 years. On 10 out of the 17 rainy days only ·01 in. fell, and on only two days did the fall exceed ·10 in.—*Finchley, Etchingham Park.* Very dry; R 1·19 in., or 60 per cent., less than the average of 12 years, and during that time only one January (1892) had a smaller fall. Five-sixths of the total fell in the first six days.

II. *Haslemere, Hazelhurst.* Dull generally, with much mist, fog, and cloud; seven fine, sunny days. Absolute drought from 7th to 16th, and only ·06 in. of R from 7th to 29th. Mean temp. 41°·5. Frost in screen on 4 nights, on grass on 11 nights. Wind light and variable. —*Wallington.* Warm, dry, cloudy and calm. R 1·19 in. less than the average of ten years. Duration of sunshine 30 hours.—*Tunbridge Wells, Camden Park.* The driest January in 15 years. R only ·69 in., or 1·90 in. less than the average.—*Birchington, Thor.* Very mild indeed, the max. temp. rising to 53° or 54° on several days. Snowdrops and crocuses in flower.—*Sheppey, Leysdown.* Remarkably dry and mild, and generally calm and dull, but some very fine days. The smallest R recorded in January in 11 years, and ·69 in. less than the average.—*Lewes, Saxonbury.* Fine, dry, calm and very mild, with much fog. No R fell from 6th to 30th, but fog yielded measurable quantity on 19th and 20th.—*Bournemouth, Kempsey.* Absence of gales and deficiency of R and sunshine. Temp. above 50° on 12 days, and frost on only one night.—*Emsworth, Redlands.* R 1·76 in. less than the average of 14 years. Absence of sun; mild, gloomy and foggy, with no frost.—*Kintbury.* Practically an absence of frost, also of sunshine; and R, with the exception of 1892, the least since 1880.

III. *Southgate, The Lawns.* Unseasonable; very mild, with absence of R and wind, and frequent fogs.—*St. Albans, The Grange.* Ex-

* See also *Met. Mag.*, Feb. 1898, pp. 5–7.

ceedingly mild; mean temp. nearly 6° above the average. Very little R, at least an inch less than the average; a humid atmosphere and cloudy sky.—*Abingdon, Culham.* Dry and mild, no frost, and very little sun.—*Watlington, Pyrton Manor.* R 1·09 in. less than the average of 12 years.—*Oxford, St. Giles'.* Dry and warm without much sunshine. R 1·20 in. below, and mean temp. 7°·6 above, the average of 10 years; the highest temp. and smallest R in that time.—*Pitsford, Sedgebrook.* R ·61 in. below the average of 10 years. Fog at times.—*Stamford, Duddington.* Dull and gloomy on the whole, and exceptionally warm; foggy up to the 18th. Floods on the Welland on 6th, 7th and 8th, but total R very small.

IV. *Colchester, Lexden.* Very mild and open, with a good deal of fog and mist in the middle of the month.—*Ipswich, Bishops Hill.* Dry and warm; R 1·40 in. less than, or only one-third of, the average. The smallness of the range of temp. between night and day is noteworthy, in some cases only 3°.

V. *Bishops Cannings.* Springs and rivers very low; R only ·49 in., or little more than one-fifth of the average.—*Tavistock, Statsford, Whitchurch.* Damp, cloudy, and very warm, with only about a quarter of the average R.—*Wellington, The Avenue.* Abnormally mild, the temp. only once falling to 32°; frequent fogs, great dampness, and sunshine deplorably scarce. R only about one quarter of the average.—*North Cadbury Rectory.* More than an inch of R fell in the first six days and hardly any afterwards; no S, scarcely any frost, and very little sunshine. Max. temp. above 50° on 13 days.—*Batheaston.* The warmest January since the record began; frost on only four nights.—*Long Ashton.* R 2·06 in. below the average of 25 years.

VI. *Clifton, Pembroke Road.* Dry and very mild, with scarcely any frost, and practically no R from the 7th to the 29th inclusive. The third dry January in succession.—*Cheltenham, Naunton Park Villas.* Remarkably warm, very dry and gloomy; 15 sunless days. Mean temp. 44°·1.—*Ross, The Graig.* A record month. The least R in January (·28 in.) since obervations commenced in 1818. Average amount of cloud 8. Only two Januaries with less frost in 40 years.—*Coventry, Priory Row.* Very mild throughout and mostly dark and cloudy, with occasional frosts at night. No continuous frost, and only one day on which the temp. at 9 a.m. was below 32°.

VII. *Horncastle, Hemingby.* Very mild and dry. Temp. 51° at 11.50 p.m. on the 5th, and 54° at 10.45 p.m. on the 30th.—*Hodsock Priory.* Dull, but very mild, and dry, with high pressure. The mean

temp. was higher and the R less than in 21 out of the previous 22 Januaries, while the sunshine was less than in 16 out of the previous 17.—*Findern.* A month of springlike weather; very warm on 12th, 13th and 20th.

VIII. *Chelford, Astle Hall.* Wonderfully mild and dry, the temp. on only one or two nights falling to freezing point. Vegetation very forward.—*Bolton, The Park.* The mildest January since the record began in 1886, with absence of snow and frost, and very little bright sunshine. R slightly, and mean temp. 6°·4, above the average.—*Southport, Hesketh Park.* The mildest and most cloudy January in the 27 years recorded. Mean temp. 6° above the average of 25 years. Frost in screen on only one day, and on grass on eight days. Mean daily range the smallest in any month since the record began, S.E. and S.W. airs or calms practically throughout. R normal. Duration of sunshine little more than half the average. Sea remarkably warm.—*Elswick Lodge.* Mean temp. the highest in January in 27 years. Rhododendrons, both crimson and white, opened their blooms perfectly.—*Chatburn, Middlewood.* The heaviest R (5·11 in.) in January since 1890, and 2·30 in. more than the average of nine years. No S.—*Duddon Valley, Seathwaite Vicarage.* Rainy and exceptionally mild, with only one night frost and no S, yet scarcely any sunshine.

IX. *Goldsborough Hall.* Very little R, no S, and frost only twice; while the max. temp. reached 50° on six days.—*Knaresborough, Farnham.* Mean min. temp. 38°·2; higher than that of February, March, or April.—*Cottingham Grange.* R only ·69 in., 22 consecutive days being rainless.—*Thixendale.* Singularly mild; nights not cold, except on 20th.—*Ormesby.* Very mild indeed, with high night temp.

X. *Newcastle, Town Moor.* R ·87 in., being the smallest fall in January since 1882, when ·73 in. fell.—*Ulpha School.* Very wet on the whole, and more like April than January, with only one night's frost.—*Brampton, Denton House.* Very mild, grass really never stopped growing. Temp. only twice below freezing.

XI. *Llanfrechfa Grange.* Very mild and calm generally, little R, and remarkably high bar., with S.W. wind.—*Oystermouth.* Little sun and not much R, but spread over many days.—*Brecon.* Remarkably mild and dry.—*Llandefaelog-fach.* On the whole very genial. The first week was wet and cold, but a dry spell set in on the 10th and continued till within three days of the end.—*Welshpool, Pool Quay Vicarage.* Mean temp. 41°·2, or 4°·1 above the average. R ·71 in., or 1·70 in. less than the average.—*Douglas, Victoria Road.* The mildest

January on record, the average temp. being about 7° above the mean. There was no frost; gales or strong winds occurred on only six days, and fog on two days.

XII. *Moniaive, Maxwelton House.* Fine and mild, with many beautiful springlike days, and frost on only one morning (23rd). Average temp. 43°.

XV. *Craigend Castle.* Mild but wet, and the last three days stormy. —*Oban, The Corran.* Exceptionally mild and wet, the R being 1·81 in., and the mean temp. 5°·7, above the average of 10 years.

XVI. *Coupar Angus.* R 1·26 in. less than the average. Mean temp. (40°·7) the highest recorded, both nights and days being very warm after the first week.

XVIII. *Loch Shiel, Glenaladale.* Very wet and mild, the R exceeding an inch on seven days. Mean temp. 44°·3.

XIX. *Watten, H.R.S.* Dry, mild, fresh and open, with frequent high wind.—*Melness.* Most variable weather. S.W. wind prevailed throughout, a strong gale blowing almost every alternate day. No S and no frost.—*Durness.* Frequent and severe gales, without precedent. Very little S on the low ground.

XX. *Coolkelure.* Very mild, with no frost or cold. Frequent wind and R storms from S.W. Vegetation as much advanced as might be expected in March.—*Cork, Wellesley Terrace.* R only a little over half the average, though the atmosphere was remarkably humid. Mean temp. 45°·8, the highest in 16 years.—*Derry Castle.* Unusually mild. Heavy R and dense fogs during the first and third weeks, and the closing days also wet and stormy. R 5 per cent. above the average. —*Broadford, Hurdlestown.* Very fine and mild, no cold at all, and more like May than January. R ·68 in., and rainy days 4, less than the average of 13 years.

XXI. *Ballindoney.* Very mild. Frost on only five nights; 2·23 in. of R fell in the first four days.—*Kilkenny, Sion Villa.* Very mild to the 20th, then cold, but not severe. *Rathmines, Leinster Road.* The mildest January since the record commenced. Mean. temp. 45°·7, or 6°·7 above the average of 10 years. Fine and dry, except for a few days at the beginning and close, an unusual occurrence with such abnormal mildness.

XXII. *Tuam, Gardenfield.* Very mild; frost on only two or three nights; no S. R ·42 in. less than the average.

XXIII. *Belfast, Springfield.* Remarkably fine and open; more like April than January. Cattle grazing most of the month.

FEBRUARY.

I. *Muswell Hill.* R ·61 in., or 33 per cent., less than the average of 26 years; though the R was so small the number of rainy days (23) was unusually large.

II. *Haslemere, Hazelhurst.* Mild to the 18th but frost every night after. Mean temp. 39°; 11 frosts in screen, 17 on grass; S on 5 days. A fair amount of sunshine.—*Cranleigh Common.* Dry and mild, with only 9 slight frosts; a little S on 21st.—*Birchington, Thor.* Very mild generally, but frost occurred on several nights, and the grass ther. fell to 17° on the 21st.—*Crossness.* Very little R; high wind at the beginning; no S; few sharp frosts.—*Isfield Place.* Wind chiefly S.W. to N.W. Duration of sunshine 104 hours; 3 days overcast. —*West Dean.* Very mild till the 18th, then very cold and snowy to the close. S on 3 days.

III. *St. Albans, The Grange.* Mild and bright. R small but only a little below the average, and on more than the usual number of days. —*Pyrton Manor.* R ·20 in. above the average of 12 years.—*Pitsford, Sedgebrook.* R 1·02 in. less than the average of 10 years. S on 5 days.—*Stamford, Duddington.* Dry and exceptionally warm excepting the week ending the 26th, for which the mean temp. was 35°. The temp. rose to or above 50° on 7 days.

IV. *Colchester, Lexden.* Very variable; very warm on the 1st, strong gale on the 2nd, slight S on the 4th, but none after that date. Very mild from the 9th to the 15th.—*Ipswich, Bishops Hill.* Dull, with some slight frosts but no S. R ·64 in. below the average.

V. *Bishops Cannings.* R only ·05 in. less than the average, but hardly any water in the ditches as the melted S seemed to be absorbed in the earth.—*Tavistock, Whitchurch.* Showery and rather cold, with R slightly below the average, but falling on 22 days. S lay on the ground from 20th to 25th, and in drifts to the end.—*North Cadbury Rectory.* A mild February, but excepting high temp. on the 1st, it was cooler at all points that January. The first week was boisterous and showery, the next mild and dry, and the rest of the month unsettled, cool, and showery.

VI. *Clifton, Pembroke Road.* R ·48 in. less than the average. S in the third week.—*Cirencester, Further Barton.* Very changeable, cold and stormy for the first week, and again cold with a little S for a week from the 17th.—*Ross, The Graig.* On the whole warmer and brighter than usual with only half the normal R. The first half was,

with the exception of two or three days, very warm and bright with a few showers. From the 18th to the 25th the temp. was below the average, and on several nights the frost was severe.—*Coventry, Priory Row.* Mild for the most part and vegetation too forward, but checked by colder weather on the 20th.

VII. *Horncastle, Bucknall.* Very dry and for the most part mild, R only ·63 in. on 8 days.—*Worksop, Hodsock Priory.* No frost of any consequence though the mean temp. was more than 2° lower than that of January, but still 2° above the average.

VIII. *Chelford, Astle Hall.* Cold with a good deal of frost, though never severe. Mild in the middle of the month.—*Bolton, The Park.* Very changeable, with many rainy days, R, S or H having fallen on 22, while the total is ·65 in. above the average. Bright sunshine was recorded on 21 days, the total duration being 16 hours more than the average.—*Southport, Hesketh Park.* Rather mild and stormy but exceptionally sunny. Mean temp. 2° above normal. Frost in screen on 6 days, and on grass on 11 days. Remarkable prevalence of strong W. winds. Mean relative humidity exceptionally low. R normal, spread over a large number of days. A considerable amount of sunshine and much clear air. Ozone unusually abundant. Sea warm, especially during the first three weeks. Thin ice on the lake on 2 days. —*Seathwaite Vicarage.* Rainy like January but not so mild, though there was only one fall of S.

IX. *Upper Midhope.* Stormy with heavy R, H and sleet; very frosty from 18th to 24th.—*Goldsborough Hall.* The early part was very mild, but it was frosty from the 21st to the end. Very little S. R below the average.—*Thixendale.* Winterly, with small downfall.—*Ormesby.* The first part warm and fine, the latter part cold and stormy. S on nine days.

X. *Brampton, Denton House.* A wet month, R 1·55 in. above the average.

XI. *Llanfrechfa Grange.* Very mild till the 18th then some frosts, injuring rhododendrons. Many small showers, but no steady R and scarcely any S.—*Oystermouth.* Mild and dull; R slight but weather ungenial and sunless.—*Llandefaelog-fach.* Wet on the whole with occasional bright days. Temp. high with few exceptions.—*Douglas, Victoria Road.* Mild for the most part till the 18th, then much colder with some frost and S. R fell on 21 days, but the total is below the average. Duration of bright sunshine largely in excess. N.W. gales on five days.

XII. *Maxwelton House.* Cold and wet with R on 19 days; frost on nine days. Temp. lower than that of January.

XV. *Craigend Castle.* The first and last weeks frosty, with R and S; gales from 14th to 16th.

XVI. *Coupar Angus.* R much below the average. W. and N.W. winds remarkably prevalent.

XVIII. *Glenaladale.* Wet and somewhat windy with two or three sharp gales.—*Loch Maddy.* A very disturbed month altogether, and the wettest February save one in 14 years. Numerous heavy S showers towards the end with heavy gales from N.W.—*Drumnadrochit* R 3·16 in. above, or more than twice, the average of 12 years, and with one exception, the heaviest fall in that period. Much sleet and S and hardly any frost.

XIX. *Watten, H.R.S.* A boisterous month, with frequent storms of wind, R and S. Frosts short and slight.—*Durness.* Broken weather throughout; frequent high winds and showers, but little S.

XX. *Coolkelure.* Very mild and damp till the 19th, when the first frost of the winter occurred, followed by heavy S showers.—*Cork, Wellesley Terrace.* Remarkably mild with the exception of eight days ending the 26th. R only a little more than one-third of the average.—*Derry Castle.* The first half and the closing weeks were very stormy and wet. R 14 per cent., and rainy days three, in excess of the average.—*Nenagh, Castle Lough.* Mild and damp, with S only on 20th.—*Broadford, Hurdlestown.* R ·19 in. and rainy days seven, above the average for 13 years.—*Miltown Malbay.* Unusually harsh, bitter, cold and boisterous weather, with H and R prevalent throughout.

XXI. *Ballindoney.* Much colder than January and no heavy R. S on four days.—*Rathmines, Leinster Road.* Rather cold and unsettled with average R. Mean temp. 41°·0. Frequent frosts during the latter half. S on four days.

XXII. *Tuam, Gardenfield.* Generally mild but frost on about five nights. Severe from 20th to 23rd. R ·12 in. above the average.—*Ballinamore, Lawderdale.* Very cold, severe and wet, with frequent strong winds.

XXIII. *Belfast, Springfield.* Very changeable, but open almost throughout. Severe frost on 20th.

MARCH.

I. *Muswell Hill.* R ·59 in., or 32 per cent., less than the average of 26 years. S fell on five days, the max. fall, ·37 in. on 3rd, being chiefly S.—*Finchley, Etchingham.* R ·78 in., or 36 per cent., less than the avearge of 12 years. More S fell in the three days, 24th to 26th, than in the whole of the winter.

II. *Haslemere, Hazelhurst.* Mean temp. 38°, being the lowest in any month in the year; 20 frosts in screen, 26 on grass. S on four days; wind chiefly N. to N.E.—*Cranleigh Common.* R and temp. moderate; 10 frosty nights. S on six days, but soon melted.—*Dorking, Abinger Hall.* Rather dry, but towards the end very stormy and cold with S storms and strong cold northerly winds.—*Wallington.* Cold and somewhat dry, with numerous frosts and S showers. R ·50 in., rainy days 3, and duration of sunshine 42 hours, less than the average of 10 years.—*Crossness.* Fine on the whole with high cold winds. S on 3rd and 4th, and 24th and 25th.—*Lewes, Saxonbury.* Dry and cool with white frost and clear days. Gales from N. on 24th, 25th, and 26th, with S.

III. *St. Albans, The Grange.* Rather cold with less than the average R.—*Culham Vicarage.* Cold and rough, especially the last week.—*Pyrton Manor.* R ·61 in. below the average of 12 years.—*Pitsford, Sedgebrook.* R ·58 in. less than the average for 10 years. Mean temp. 39°·5.

IV. *Lexden.* The proverbial March many weathers. Slight S showers in the early part; bitterly cold N.E. winds from the 23rd to 28th; S on the ground on the 24th. Frost on grass on 24 days.—*Ipswich, Bishops Hill.* R ·43 in. above the average. Frost every day except the three, 16th to 18th.—*Rendlesham Hall.* Strong winds and H at the beginning; gales and S at the end of the month. Plenty of frost.

V. *Bishops Cannings.* R 1·27 in. less than the average. Scarcely any drains or ditches running.—*Wellington.* The coldest month of the season with very deficient R. At times the wind was very bleak, but about the middle of the month a few very mild days occurred, making the mean temp. only just below normal. Frost on 16 days; S on four days.—*North Cadbury Rectory.* The most wintry month of the winter, with many frosts. Very dry from the 7th to the 23rd; quite warm from the 13th to the 18th, cold and stormy after the 23rd.

VI. *Clifton, Pembroke Road.* Dry and cold, with ground frosts on

most nights, and N.E. winds. The total R for the first quarter is only 3·78 in., the smallest since 1858 (3·34 in.).—*Further Barton.* Very dry with frequent night frosts. N.E. gales on 7th and 8th, and again with more violence for three days, from 23rd.—*Ross, The Graig.* Very dry; only five Marches since 1818 having had less R, while the fall for the three months, January to March (2·07 in.), is without precedent in the same period, and only 26 per cent. of the average of 20 years.—*Coventry, Priory Row.* A very dry month, favourable for seeding and cleaning the land.

VII. *Hodsock Priory.* The coldest March since 1892; white frosts at the commencement, and S squalls near the end.

VIII. *Bolton, The Park.* The coldest month of the winter, the mean temp. being 1°·4 below the average, and 1° lower than that of January. R, S, or H fell on eighteen days, and was ·75 in. less than the average. Bright sunshine was recorded on 27 days, and was slightly in excess of the average.—*Southport, Hesketh Park.* Dry, but otherwise normal. Mean temp. 1° below average. Frost in screen on 13, and on grass on 23 days. Deficiency of southerly airs and a spell of dry, keen, N.E. wind from 23rd to 27th. R less than half the average. Cloud and sunshine normal. A good deal of ozone. Thin ice on the lake on 8th.—*Chatburn, Middlewood.* R 1·21 in. less than the average of nine years.—*Broughton-in-Furness.* Violent wind on 1st, then beautifully sunny weather and scarcely any R till the middle. S showers from 24th to 28th, the end of the month very fine.—*Seathwaite Vicarage.* Cold and rainy, but the total R small. Bitterly cold N.E. gale from 23rd to 27th, with S.

IX. *Goldsborough Hall.* Dry, and the first three weeks mild. Very rough and stormy from the 23rd to the end. R below the average. Temp. above 50° on 10 days.

X. *Newcastle, Clifton Road.* Very dry up to the 21st, then showery, with S from 23rd to 26th.—*Ulpha School.* The month came in like a lion, with heavy wind driving S, and one of the roughest days of the winter, but on the whole was not wet though showery, and there were occasional nice spells, especially at the end.—*Brampton, Denton House.* Very wild at times; strong gales doing much damage. Tynemouth Pier sustained further injury.

XI. *Llanfrechfa Grange.* Cold N. winds prevailed with much frost at night. Min. temp. lower than in either January or February. —*Brecon.* Extraordinarily dry, hardly any water in the river Usk, and many of the mountain rivulets quite dry.—*Llandefaelog-fach.*

Thoroughly wintry, with the exception of a few fine days in the second week. Hard frost, S, H, sleet, and several gales of wind.—*Colwyn Bay, Nant-y-Glyn.* Very dry, R ·83 in., but in March, 1893, only ·36 in. fell.—*Douglas, Victoria Road.* On the whole fine and quiet, with R much below the average. Strong N. winds with S and H to the 5th, succeeded by bright, frosty weather, followed by a mild week with some R. N.E. gales, with slight S and H from 22nd to 26th.

XII. *Lilliesleaf, Riddell.* The first three weeks were exceedingly fine, with very little R or frost; but the weather changed on the 23rd, and gales with heavy showers of S and sleet followed, with E. wind to the end.

XV. *Craigend Castle.* Generally clear, and frosty at night, but wet in the middle of the month with six inches of S.

XVI. *Coupar Angus.* The driest month in 20 years. R only ·35 in. With the exception of December, 1897, every month since August, 1897, has had deficient R. Mean temp. 0°·2 above the average, and 2°·1 below that of January.

XVIII. *Glenaladale.* Very stormy, cold, and wet; much S on the hills.

XIX. *Watten. H.R.S.* The first half dry and cold; the latter half wet and cold. Frost on several nights.—*Durness.* Hardly any S on the low lying ground, but the hills remained white throughout.

XX. *Cork, Wellesley Terrace.* R only about one-fifth of the average, and the total from January 1st only 4·45 in., being 6·44 in. less than the average. Remarkable freedom from storms.—*Derry Castle.* The driest month since May, 1897, the R barely exceeding half the average, though the number of wet days is only one less than the average. The first half was mild and seasonable, but from the 17th to the close, was extremely harsh and boisterous with keen frosts.—*Broadford, Hurdlestown.* Very dry; R 1·40 in., and rainy days two, less than the average of 13 years.—*Miltown Malbay.* With but little R or S, a black March; keen, dry, penetrating winds, sometimes rising to gales, generally prevailing.

XXI. *Ballindoney.* Very dry, the heaviest R being ·15 in. on 18th. Slight S on eight days.—*Rathmines, Leinster Road.* Rather dry, but cold and harsh with frequent showers of R, H, S, and sleet. S on seven days. Mean temp. 41°·0, or 4°·7 lower than January, and 2°·0 lower than December.

XXII. *Tuam, Gardenfield.* R two-fifths of the average. Mostly cold, with frost on about 13 nights.

XXIII. *Belfast, Springfield.* Though not much R there was very little March dust till the last week. Water getting scarce.

APRIL.

I. *Muswell Hill.* The first week was rainless; during the next 13 days R fell on seven, followed by five dry days, and the remainder were rainy. Total fall not quite two-thirds of the average.—*Finchley, Etchingham Park.* The first week was dry; in the second week R fell on five days; and then from 15th to 25th, only ·17 in. fell on two days, while the remainder of the month was rainy.

II. *Haslemere, Hazelhurst.* R on 12 days, but none on the 11 days ending 25th. The ground very dry and wells very low. Frost in screen on 6, and on grass on 11 days.—*Cranleigh Common.* Rather fine and mild; five frosty nights.—*Abinger Hall.* Very dry, and there was scarcity of water on the high ground. Cold N.E. winds were prevalent, with some severe frosts.—*Wallington.* Warm, somewhat dry, and rather unhealthy; nearly half the R fell in the last five days, the total being ·46 in. less than the average. Duration of sunshine, 167 hours.—*Birchington, Thor.* Very changeable throughout, with cold N.E. wind from 16th to 26th.—*Burgess Hill.* Fine and dry till 7th, then changeable till 14th, dry and fine again to 26th, then stormy to the end.—*West Dean.* Cold and unseasonable, with frost on 15 nights.

III. *St. Albans, The Grange.* Mean temp. and R a little above the average.—*Culham Vicarage.* Dry and rather cool; showers from 8th to 14th and 26th to 30th; several frosts.—*Oxford, St. Giles'.* Average R; temp. a little above the average.—*Pitsford, Sedgebrook.* R ·08 in. less than the average of 10 years. Mean temp. 47°·0. Fine, bright weather from 15th to 25th.

V. *Bishops Cannings.* R ·39 in. less than the average. Frosts in the last week.—*Tavistock, Whitchurch.* A month of about average temp. and R. S drifts lay on Dartmoor till the 11th.—*Wellington.* Normal temp., but cold nights were frequent. R fell on few days, but slightly exceeded the average amount. The winds at times were strong, frequently from E.

VI. *Clifton, Pembroke Road.* Easterly winds prevailed for the greater part of the month. R a little above the average.—*Ross, The Graig.* Fine generally. R fell in considerable quantity from 8th to 11th and from 28th to 30th; otherwise scarcely any. Up to the 27th

the drought, which had lasted since December 31st, was practically unbroken, only 3·15 in. having fallen in 118 days. Almost constant E. winds during the latter half, with frost on 10 nights.—*Tettenhall.* The third April in succession with deficient R, the fall being only 66 per cent. of the average.—*Coventry, Priory Row.* Favourable on the whole; frosty nights retarding premature growth. Welcome R at the end.

VII. *Hodsock Priory.* Mild with a heavy fall of R on the 11th, the only fall exceeding an inch that we have ever had in April.

VIII. *Bolton.* Cloudy skies and intermittent sunshine. R ·15 in., and mean temp. 1°·1, above the average. Duration of sunshine 95 hours, being 13 hours less than the average.—*Southport, Hesketh Park.* Somewhat dull and mild. Mean temp. 1°·8 above average. Unusually warm on 8th, max. temp. 68°·9. Marked prevalence of S. wind. R slightly in excess, but it fell chiefly in the second week. Deficiency of sunshine, but a satisfactory amount of ozone.—*Chatburn, Middlewood.* R ·16 in. less than the average of nine years.—*Broughton-in-Furness.* The first fortnight dull and showery, then a sunny week, followed by mild, dull and showery days, with cold E. wind.

IX. *Goldsborough Hall.* With the exception of a few warm days in the early part, the weather was generally dull and cold, with very little sun.—*Ormesby.* Fairly dry, with cool, northerly winds.

X. *Ulpha School.* The month opened with R, and was fairly showery. Delightful weather prevailed from 15th to 22nd and 24th to 27th, but the end of the month was cold with heavy showers.—*Brampton, Denton House.* Very wet; R 2·68 in. above the average.

XI. *Llanfrechfa Grange.* Very mild, with R about the average. Vegetation very forward.—*Dowlais, Gwernllwyn.* Fairly fine, but R above the average. Some fog at the beginning.

XII. *Maxwelton House.* Altogether a good month. Showers up to the 13th, then a dry fortnight, and R on the last three days.—*Riddell.* Cold, variable and disagreeable. R much above the average.

XV. *Craigend Castle.* The first half wet and cold; the second half mild and showery.—*Ballachulish, Ardsheal.* Unusual R, 6·50 in.; being 2·71 in. more than the average.

XVI. *Coupar Angus.* Very favourable for the farmer up to the 28th, after which R poured continuously, with strong, E. wind. No frost after the 6th. Mean temp. 1°·6 above the average.

XVII. *Fettercairn, The Burn.* Abnormal and unprecedented R; 8·50 in. on 19 days.—*Mains of Waterton.* R 3·93 in.; the largest fall in April in 30 years, with the exception of 4·51 in. in 1871.

XVIII. *Glenaladale.* Wet and mild, and vegetation well forward.

XIX. *Watten, H.R.S.* Cloudy, cold, wet and windy.

XX. *Coolkelure.* Although a good deal of R fell and there were many night frosts, the month was a fine one from an agricultural point of view.—*Cork, Wellesley Terrace.* R 1·25 in. above the average. A period of 30 consecutive days with only ·27 in. of R ending on 4th.—*Derry Castle.* In the first week, and from 20th to the end, the weather was fine and mild, but from 8th to 19th was stormy and very wet. R 48 per cent., and rainy days 19 per cent., in excess of the average.—*Hurdlestown.* R 1·05 in., and rainy days 4, above the average for 13 years.—*Miltown Malbay.* Cold and ungenial until the 17th, but the latter part more seasonable.

XXI. *Ballindoney.* Very wet from the 8th to the end. Six falls of more than ·50 in.—*Kilkenny, Sion Villa.* Fine, bright and cold to the 9th and from 18th to 28th. Gales from 10th to 13th.—*Rathmines, Leinster Road.* Changeable, with temp. and R slightly above the average. The first week was dry and fine, with high day temp. and slight night frosts. E. winds less prevalent than usual.

XXII. *Tuam, Gardenfield.* Mostly mild; frost on five nights; no S; R ·38 in. above the average.—*Lawderdale.* Wet and cold, with prevailing winds from W. and S.

XXIII. *Belfast, Springfield.* R above the average, but no harm to crops from either R or frost.—*Horn Head.* A lovely spring month; very mild, with nice, soft showers.

MAY.

I. *Kensington, Edith Road.* Cold and wet; R falling on 23 days, though in no great quantity.—*Muswell Hill.* R ·79 in., or about 41 per cent., above the average of 26 years. R fell on 23 days, and there was only one instance of two consecutive days without R; but the amounts were mostly small, as on only six days did the the fall exceed ·11 in.—*Finchley, Etchingham Park.* R exceeded the average of 12 years by ·59 in., or 30 per cent., and was distributed over the whole month; the longest period without R being the three days 24th to 26th.

II. *Cranleigh Common.* Wet and variable.—*Abinger Hall.* Very showery, with prospect of abundant hay. Nights rather cold with frosts at intervals.—*Wallington.* Wet, somewhat cool, and rather sunless, the duration of sunshine being the smallest recorded in

May. R ·97 in., and rainy days 8, above the average of 10 years, —*Tunbridge Wells, Camden Park.* R 1·18 in. more than the average. and, with one exception, the greatest in 15 years.—*Sheppey, Leysdown.* Very changeable, and on the whole wet, with low temp.—*Chislehurst, Southlaund.* R 3·38 in.; the heaviest fall in May since 1880, with the exception of 1886, when 4·41 in. fell.—*Burgess Hill.* Very wet and cold.—*Emsworth, Redlands.* Cold, rough winds but no frosts. Vegetation backward.—*West Dean.* Very cold and inclement, with R above the average.

III. *St. Albans, The Grange.* Rather cold, with much R on many days.—*Broxbourne.* Cold, wet and miserable.—*Culham Vicarage.* Cold and stormy, with a good deal of wind. Many R storms, but no continuous fall.—*Pyrton Manor.* R ·65 in. above the average of 12 years. —*Bloxham Grove.* Very wet, with very few warm days, but not many frosty nights.—*Castle Ashby.* The heaviest May R since 1878, and 1·92 in. above the average of 10 years.—*Pitsford, Sedgebrook.* R 1·85 in. more than the average of 10 years.

IV. *Colchester, Hill House, Lexden.* Cool and showery throughout; vegetation looks well.—*Ipswich, Bishops Hill.* Dull, cold and very unsettled, with many showers. R ·43 in. above the average.

V. *Bishops Cannings.* R 1·21 in. more than the average. Grass plentiful, but vegetation late. Too much R for cereals.—*Tavistock, Whitchurch.* Rather cold and wet; R fell on 26 days, and in measurable quantity on 20 days.—*Wellington.* Excessively wet and stormy; R nearly three times the normal amount. Temp. low, with very few warm days and little sunshine.—*North Cadbury Rectory.* Wet and gloomy, with only one hot day (23rd), and that close and rather dull, with T about. Frost on two nights, slightly damaging potatoes on low ground.

VI. *Clifton, Pembroke Road.* Cold, rainy and ungenial. R 1·07 in. above the average.—*Ross, The Graig.* A wet month; since 1818 there have been only six wetter Mays. Mean max. temp. 3°·4 below the average. From the 19th to the close the sky was nearly always overcast and the air cold, but there was no frost to injure vegetation.— *Coventry, Priory Row.* Somewhat cold and wanting in sunshine, but very "growing" weather, owing to the frequent R.

VII. *Hemingby.* Very rough and cold.—*Hodsock Priory.* Rather cold, especially in the day time; no warm days but no sharp frosts, though there were a good many slight ones. R normal; sunshine deficient.

VIII. *Bolton, The Park.* Changeable and showery throughout, with many rainy days. R 1·13 in., or 47 per cent., above the average. Temp. more equable than usual. Duration of bright sunshine 17 hours deficient.—*Southport, Hesketh Park.* Decidedly wet and sunless, with low day temp. and strong, cool winds. Mean temp. 0°·8 under the average. Frost on grass on three nights, but none in screen. Daily range of temp. unusually small. Marked predominance of strong to moderate W., N.W. and E. winds. R more than an inch in excess. Material deficiency of sunshine, but clear air and a very large amount of ozone.—*Chatburn, Middlewood.* R ·99 in. more than the average of nine years, and the heaviest fall in May since 1892.—*Broughton-in-Furness.* Cold and stormy generally, with a few very fine, sunny days, but no continuous warmth. Cold E. winds, particularly in the third week.

IX. *Goldsborough Hall.* Very cold and little sunshine. The max. temp. was only 66°, and on five days the max. was below 50°.—*Thixendale.* Deficiency of sunshine at the beginning, cold towards the end.

X. *Ulpha School.* Wet on the whole, and cold and unspringlike, with occasional H, and the fells white with S.—*Brampton, Denton House.* Cold and wet; R fell on 17 days, the total being ·60 in. above the average.

XI. *Llanvihangel Court.* Dull, cloudy, cold and unseasonable.—*Oystermouth.* Cold and wet; the sun warm occasionally, but cold winds. A very backward spring.—*Colwyn Bay, Nant-y-Glyn.* The wettest May since and including 1880, R 5·00 in.; the next wettest being in 1886, with 4·91 in.—*Douglas, Victoria Road.* Somewhat wet and ungenial, and vegetation made little progress. Gales on six days.

XII. *Lilliesleaf, Riddell.* Cold and dull throughout with much ground frost, though not very severe. R a little less than the average.

XV. *Craigend Castle.* The first half showery and frosty, the second half fine and clear.

XVI. *Coupar Angus.* R about the average; temp. nearly 2°·0 below the average. Vegetation backward.

XVIII. *Glenaladale.* Cool and moist, with remarkably equable temp.

XIX. *Watten, H.R.S.* The first half was cold and wet, followed by a week of bright, dry days with frosty nights. The last week was cold and very wet. Prevailing winds E. and N.

XX. *Killarney.* Gloomy, with a maximum amount of cloud.—

Castle Lough. The early part was cold and wet, the temp. twice fell to 35°, and once to 37° in the third week, and was sometimes below 50° at mid-day.—*Hurdlestown.* A cold, wet month. R ·55 in., and rainy days 5, above the average of 13 years.—*Miltown Malbay.* Boisterous, cold and damp, with frosts doing much damage to vegetation. More like February than May.

XXI. *Kilkenny, Sion Villa.* The first half generally overcast, wet and stormy, with occasional intervals of lovely weather. The second half very dry with harsh winds, checking vegetation; but from 23rd to 25th again lovely and very warm.

XXII. *Tuam, Gardenfield.* Rather cold; frosts on five nights; those from 13th to 15th damaging potatoes and young shoots of trees. R ·24 in. less than the average.—*Lawderdale.* Wet, unseasonable and cold.

XXIII. *Belfast, Springfield.* Showery, cold and stormy. Vegetation progressing slowly, wanting heat.—*Horn Head.* Cold, with much E. wind. R double the average.

JUNE.

I. *Muswell Hill.* R· 96 in., or 42 per cent., less than the average of 26 years. The first 22 days were generally dry as R was recorded on only five, amounting to ·36 in.; in the remaining eight days R fell on all but the 28th.—*Finchley, Etchingham Park.* R ·49 in., or 27 per cent., less than the average of 12 years. The first three weeks were very dry, only ·29 in. of R falling on seven days, while 1·02 in. fell in the last eight days.

II. *Abinger Hall.* Variable as regards temp., being quite winterly for several days about the middle. Showers were much needed after a spell of 12 rainless days ending on 22nd.—*Wallington.* Cold, rather dry, and comparatively sunless. The mean max. in shade and the mean temp. are the lowest for June since this record commenced in 1886, and the duration of bright sunshine is the smallest since 1890. All crops looking well. R ·14 in. less, and rainy days two more, than the average.—*Birchington, Thor.* Mostly dull and cold, with (on the 8th and 9th) the greatest R since October, 1896. Duration of sunshine 179 hours.—*Burgess Hill.* Dry, cold, and dull.—*West Dean.* Very cold and dull, with about half the average R.

III. *St. Albans, The Grange.* A cold month with average R.—*Slough, Upton.* Drought was severely felt about the 20th; the tops of trees flagging or even dying, leaves fewer and smaller than usual,

and big laurels dying.—*Culham Vicarage.* Unsettled, though no great quantity of R fell; temp. very changeable.—*Oxford, St. Giles'.* R a trifle, and mean temp. nearly 2°, below the average.—*Pitsford, Sedgebrook.* R 1·49 in. less than the average of 10 years.—*Stamford, Duddington.* Dull, with little R, and variable temp.

IV. *Colchester, Lexden.* Cool and showery, with deficient sunshine. Hay crop good and well harvested.—*Ipswich, Bishops Hill.* Dull and cold, and the first and last weeks wet; the middle fortnight very dry. R ·78 in. above the average.

V. *Bishops Cannings.* R ·96 in. less than, but rainy days three more than, the average. Hay crop good but rather late.—*Tavistock, Whitchurch.* Rather wet and cold. Nearly two-thirds of the R fell on two days, viz., ·82 in. on 5th and 1·50 in. on 12th.—*Wellington.* Decidedly cool, with very few warm days, and frequent cold nights. R about normal and few rainy days; less than ·01 in. fell in the 15 days ending 20th. Wind generally from a cold quarter.—*North Cadbury.* The first six days were cool, gloomy and showery, then followed dry and pleasant weather till the 23rd, but the 13th and 14th were cold; the last week was wet and the air very humid.

VI. *Clifton, Pembroke Road.* R 1·10 in. less than the average.—*Cirencester, Further Barton.* Fine, though very changeable in temp. Summer heat from 5th to 11th. T heard only in the distance.—*Ross, The Graig.* Very dry; only four drier Junes in 40 years. On no day did the temp. reach 80°, and the mean from 1st to 3rd and 13th to 15th, was unusually low. Vegetation backward.—*Wolverhampton, Tettenhall.* R 81 per cent. of the average of 25 years.—*Coventry, Priory Row.* Although the total R was small, there was abundant growth and a great hay crop.

VII. *Hodsock Priory.* A normal month but without much R; on 15th the temp. in screen fell to 31°·9, the first frost which we have ever had in June. Hay crops heavy.

VIII. *Southport, Hesketh Park.* Rather sunless with some strong cool breezes and generally low day temp. Fairly normal in nearly all other respects. No frost on grass. Decided preponderance of W. winds. R half an inch below average. Material deficiency of sunshine, but air very clear and abundance of ozone.—*Chatburn, Middlewood.* R ·09 in. more than the average of 9 years.—*Broughton-in-Furness.* Very fine warm weather from 7th to 17th inclusive, but the remainder very cold with bleak winds. Vegetation very backward.—*Seathwaite Vicarage.* Showery and persistently cool.

IX. *Goldsborough Hall.* Very unsettled, dull and cold, with little sunshine. The max. temp. reached 70° on only nine days.

X. *Ulpha School.* Though not wet, June cannot be called a fine summer month; it came in with showers of H and R, and the latter part was wet and stormy. There were a few fine warm days but not many.—*Brampton, Denton House.* The month came in cold, the temp. down to 35°, and distant hills covered with S. R an inch above the average.

XI. *Llanfrechfa Grange.* Cold, especially in the first and last weeks, but hay crops very good.—*Brecon.* Many rainy days, though the total R is not large. A fine spell in the second and third weeks.

XVI. *Coupar Angus.* R ·06 in. less than, and mean. temp. slightly below, the average. The nights were cold but the days warm.

XVIII. *Glenaladale.* A fine and warm month.

XIX. *Watten, H.R.S.* Cloudy, mild, and very little sun. Winds easterly, northerly, and north-westerly.

XX. *Cork, Wellesley Terrace.* R only two-thirds of the average, and mean temp. low.—*Broadford, Hurdlestown.* A wet, cold June, but not unfavourable for farmers. R ·48 in., and rainy days four, above the average for 13 years.—*Miltown Malbay.* Cold and wet, with the exception of eight warm sunny days. Frequent T towards the end.

XXI. *Kilkenny, Sion Villa.* Except the first week which was miserable, wet, and stormy, and the three days ending the 25th, which were the same, the weather was charming, with great heat and strong sunshine.—*Rathmines, Leinster Road.* Rather fine and dry, but temp. below, and amount of cloud above, the average. Brilliant weather from the 8th to the 17th.

XXII. *Tuam, Gardenfield.* Wet, R 1·25 in. above the average.—*Lawderdale.* Wet, and the first half cold, the rest mild.

XXIII. *Belfast, Springfield.* Changeable throughout; from 13th to 19th sun all day, and on the 22nd as cold as March. Crops all look well.—*Horn Head.* Some very cold weather during the month, with H showers.

JULY.

I. *Kensington, Edith Road.* Very dry and fine, but not hot. R two inches below the average.—*Muswell Hill.* R 1·51 in., or nearly 57 per cent., less than the average of 26 years. R was recorded on only seven days, six of them being in the last fortnight, absolute drought prevailed for 16 days ending 17th.—*Finchley, Etchingham*

Park. The driest July since the record began in 1886; the total R ·60 in., being 2·23 in., or nearly 79 per cent., less than the average of 12 years. The month opened with ·25 in. on the 1st, followed by 16 days with only ·01 in. on 9th and 13th.

II. *Haslemere, Hazelhurst.* A fine warm month with much sunshine. Wind northerly almost throughout, and light in force. Mean temp. 60°. R only ·53 in. on nine days; ·21 in. falling on 22nd.—*Abinger Hall.* Extremely dry with very varying night temp., ranging from 58° to 32°. R only ·51 in., and greatly needed for all growing crops.—*Wallington.* Very close and dry, with temp., and duration of sunshine, rather above the average. R, with the exception of July, 1897, the smallest on record, and less than one-third of the average of 10 years.—*Crossness.* R on only four days, and none from 2nd to 19th.—*Burgess Hill.* Fine and dry; less settled towards the end. —*Bournemouth, Kempsey.* Very dry, and vegetation suffered on this light soil. Absolute drought for 17 days from 2nd, and partial drought for 30 days from June 27th with ·14 in. of R.—*West Dean.* Very fine and dry; R only ·69 in. on six days. Very low night temp.; white frost being seen on four nights. The village stream was dry from the 15th to the close.—*Liss, Lingwood.* Sultry and dry; R only ·47 in., and duration of sunshine 210 hours.

III. *Culham Vicarage.* Warm and dry, the driest July since 1885, R only ·48 in.—*Pyrton Manor.* R 1·89 in. below, or less than one-third of, the average of 12 years.—*Pitsford, Sedgebrook.* R 2·81 in. below, or less than one quarter of, the average of 10 years.

IV. *Colchester, Lexden.* Generally cool, and some days unseasonably cold and dull. Absolute drought for 16 days from 2nd to 17th. —*Ipswich, Bishops Hill.* Dry, with many dull, sunless days, and cold nights. R ·82 in. less than the average.—*Rendlesham Hall.* Fine and dry, with heavy TSS on 1st and 28th. Variable temp. and very cold nights on 21st and 31st.

V. *Bishops Cannings.* R 2·33 in., and rainy days 11, below the average; the total fall being less than one-fifth of the average.—*Chudleigh, Ideford.* R ·35 in., the least recorded, the next lowest being 1·28 in. in 1897.—*Romansleigh Rectory.* No R fell in the 15 successive days, 3rd to 17th.—*Wellington.* Very fine and excessively dry. R was measured on only four days; the total amount being barely one-tenth of the normal. Sunshine was abundant, but no great heat was experienced, while the nights were frequently cold.—*North Cadbury.* Very dry; R only ·59 in. on four days. Decidedly

cool till the 15th, then four hot days, and three hot ones again from 25th to 27th. No cold day but many cold nights; temp. on grass falling below 40° no fewer than six times. Thundery appearances common but hardly any T.—*Long Ashton.* The smallest July R for 26 years, being 2·95 in. less than the average.

VI. *Clifton, Pembroke Road.* The driest July in 42 years (R ·66 in.), with the single exception of 1863, when ·47 in. fell. Absolute drought for 20 days ending 21st, with the exception of a few drops of R on 13th.—*Campden, Hidcote.* Very dry and changeable, with some very cold nights.—*Ross, The Graig.* Very dry, R only ·55 in. In 40 years there have been only four Julys with less R.—*Wolverhampton, Tettenhall.* R only 49 per cent. of the average of 25 years.—*Coventry, Priory Row.* Fine and dry, no heavy storms. Great crops of hay well gathered.

VII. *Hodsock Priory.* A fine month with cold nights; there were three frosts on grass which may be compared with four during the whole of the last 19 Julys. A dry time from the 2nd to the 29th, when there was a heavy TS which did immense good to the roots though it rather laid the corn.

VIII. *Chelford, Astle Hall.* A dry month and hot.—*Blundellsands.* The driest July since the record began in 1876. R only ·35 in.—*Southport, Hesketh Park.* The driest July on record. An overwhelming prevalence of strong to normal W. to N.W. winds. Mean temp., average, and range moderate. R only ·35 in., or 3·26 in. below the average, and the smallest in July in 27 years. Only five rainy days. Absolute drought from 2nd to 17th inclusive. Relative humidity unusually low. Underground water falling steadily. Ozone very abundant. A good record of bright sunshine.—*Elswick Lodge.* R only ·49 in; the smallest in 27 years. In July, 1878, the total was ·74 in., and in no other year was the fall less than an inch.—*Chatburn, Middlewood.* R 2·73 in. below, or little more than one-fifth of, the average of nine years, and far the smallest in that time.—*Broughton-in-Furness.* Fine, bright, and sunny, speaking generally, but not particularly hot on any day as there was almost always a brisk wind blowing.

IX. *Goldsborough Hall.* Very dry, the total R being ·87 in. There was great variation of temp., the max. ranging from 56° on 29th to 80° on 16th.—*Knaresborough, Conyngham Hall.* The driest July in 20 years. R only ·74 in. on five days.

X. *Newcastle, Town Moor.* R ·67 in.; not since 1878, when only

·27 in. fell, has such a small fall occurred in July.—*Brampton, Denton House.* A good month for haymaking. R more than an inch below the average, and none fell on 19 days.

XI. *Llanfrechfa Grange.* Remarkably dry and very sunny and warm. R much wanted for gardens and fields. *Oystermouth.* Very dry with much wind and sun.—*Dowlais, Gwernllwyn.* A very fine month with absolute drought for 19 days from 2nd to 20th.—*Brecon.* Peculiarly dry and fine, but with considerable variation in temp.—*Colwyn Bay, Nant-y-Glyn.* R only ·85 in. on five days, but in July, 1897, only ·65 in. fell.—*Douglas, Victoria Road.* The driest July on record; R only ·28 in., the next driest being ·67 in. in 1878. There have been only three drier months recorded. Absolute drought prevailed from June 28th to July 15th inclusive.

XII. *Moniaive, Maxwelton House.* R only ·49 in., or 3·53 in. less than the average of 10 years, the next smallest fall being 1·24 in. in 1891.—*Lilliesleaf, Riddell.* This month, like its two predecessors, was famous for little R, little sunshine, much wind and much cloud. It was the most splendid haymaking month on record. Total R 2·23 in. less than the average of five years.

XVI. *Coupar Angus.* Remarkably dry, temp. about the average.

XVIII. *Glenaladale.* Very fine and warm. Mean temp. 58°·0.

XIX. *Watten, H.R.S.* Dry and cloudy, with very little sunshine. Many mild fine days, intermingled with cold, ungenial ones.

XX. *Coolkelure.* Very warm and dry; the potato crop promises to be exceptionally good and the harvest early.—*Broadford, Hurdlestown.* With the exception of 1891, the driest July on record, the R being 1·63 in., and the rainy days nine, less than the average for 13 years. Absolute drought for 15 days ending on 16th.—*Miltown Malbay.* Except on the 1st, when ·90 in. fell, there was very little R, but the temp. was not high, and there were many ground and sea fogs which made harvesting slow.

XXI. *Ballindoney.* Very fine and warm; only ·01 in. of R from the 2nd to 19th. Temp. above 80° on four days.—*Rathmines, Leinster Road.* The finest and driest July since 1887; although the temp. was slightly below the average, it exceeded 70° on 14 days. Much brilliant sunshine and no TSS.—*Athlone, Twyford.* R 1·29 in., being the smallest fall in July during more than 20 years.

XXII. *Tuam, Gardenfield.* Very dry, only ·04 in. of R up to 21st. The first ten days were cold, with slight frost on 3rd, the remainder mostly warm.—*Ballymote, New Park.* The driest July for 28 years. R only 1·42 in., or 2·27 in. less than the average of 10 years.

XXIII. *Belfast, Springfield.* Exceptionally dry, from the 1st to the 21st, there had been only one twenty-fourth of the average for July for 24 years. Temp. variable. All crops, but turnips, good. R much wanted.

AUGUST.

I. *Kensington, Edith Road.* Very warm and dry. Temp. 3°·5 above, and R only half, the average.—*Finchley, Etchingham Park.* The driest August in 12 years, excepting 1886 ; the R being 1·46 in., or 54 per cent., less than the average. Only ·24 in. fell from 9th to 26th, and on only three days did the fall exceed ·10 in.

II. *Haslemere, Hazelhurst.* Much sunshine and hot weather. Ground very dry, and little water left in ponds. Flowers quickly over, and evidently dry at the roots. Wind generally S.W. and light, but half a gale on 5th and 7th. Mean temp. 62° ; no frosts.—*Wallington.* Extraordinarily warm, dry and sunny. R 1·31 in., and rainy days 5, less than the average of 10 years. Mean temp. 2°·7 in excess.—*Birchington, Thor.* Remarkably dry, except on 7th and 8th, when 1·34 in. of R fell, accompanied by a N.E. gale ; everything parched at the end. Duration of sunshine 257 hours.—*Chislehurst, Southlaund.* R only ·41 in. ; the smallest in 19 years, with the exception of August, 1880, when only ·11 in. fell.—*Lewes, Saxonbury.* A splendid harvest month; dry from 11th to 23rd, and high temp. both day and night.—*Burgess Hill.* Unsettled at the beginning and end of the month. Heat wave from 11th to 23rd.

III. *St. Albans, The Grange.* Very warm, with very little R, but the usual number of rainy days.—*Culham Vicarage.* Dry and hot ; one of the smallest total falls in 48 years, and the wells and springs were never so low before.—*Pyrton Manor.* R 1·95 in. below the average of 12 years.—*Sedgebrook.* R ·52 in. more than the average of 10 years. Mean temp. 62°·9.

IV. *Colchester, Lexden.* Almost rainless from 9th to 26th, and hot from 10th to 23rd.—*Ipswich, Bishops Hill.* Very hot and fine, and the driest August since 1885. On several days the temp. rose above 80°. R less than half the average.

V. *Bishops Cannings.* R ·63 in. less than the average. Most of the corn carried by the end of the month.—*Tavistock, Whitchurch.* Rather wet and cloudy, with about average temp.—*Wellington.* Generally warm, some days being excessively close and sultry. R fell on few days, but slightly exceeded the normal, owing to heavy falls on 6th

and 18th. Temp. above the average.—*North Cadbury.* Cool and showery from 3rd to 10th, a hot spell from 12th to 21st, with the temp. reaching 80° on 10 consecutive days. Rather cool from 24th to the end, with many little rains. The peculiarity of the month was that nothing could make it really rain ; and the most threatening appearances passed away with small result.—*Frome, Mells Rectory.* Five days with shade temp. above 80°.

VI. *Cirencester, Further Barton.* A month of great heat, with TSS on three days ; colder after the 27th.—*Ross, The Graig.* The R for the month is slightly above the average for 30 years, but most of it fell in three storms, the rest of the month being mostly fine and hot.—*Wolverhampton, Tettenhall.* R 80 per cent. of the average.—*Coventry, Priory Row.* Very fine ; weather generally hot and dry, except for heavy storms, which produced a large total R.

VII. *Hodsock Priory.* Warm, especially at nights, with some rather heavy falls of R. Harvest making good progress, crops well up to the average ; root crops very good and keep abundant.

VIII. *Chelford, Astle Hall.* Very wet, with a good deal of T, and hot.—*Bolton, The Park.* The weather on the whole was favourable to agriculture, although in the early and latter portions there was much R, the total being 6·22 in. on 21 days, or 1·83 in. more than the average. Mean temp. 1°·2 above average.—*Southport, Hesketh Park.* Decidedly wet and sunless, westerly winds predominating. Mean temp. 2°·2 above average, night temp. unusually high. Strong W. winds and gales during the early part and at the close. R over 5 inches, being more than 1·25 in. in excess of the average. Ozone abundant during the stormy weather. Deficiency of sunshine.—*Chatburn, Middlewood.* R ·52 in. more than the average of nine Augusts.—*Broughton-in-Furness.* The first week was very wet and cool, then followed three weeks of very close, warm weather, with R at the beginning and end ; much cooler and a violent storm of wind and R on the 30th.—*Seathwaite Vicarage.* As yet much the wettest month of the year ; the R amounting to 7·51 in. during the first 10 days, with a monthly total (12·36 in.) almost equal to that of the preceding three months.

IX. *Upper Midhope.* Heavy R on nine days, but a fine, dry period from 11th to 25th, the heat at times being very oppressive.—*Goldsborough Hall.* The warmest month of the year, the max. shade temp. being only once below 60°. The last week was much cooler, with strong winds from W. and S.W.—*Thixendale.* Ground so dry deep

down that earth worms are never turned up with the soil.—*Ormesby.* Fairly seasonable ; average R, in many small amounts.

X. *Ulpha School.* Some very fine weather, but on the whole the month was a very wet one.—*Brampton, Denton House.* Much R, many TSS, causing several accidents, and heavy floods. R 1·59 in. above the average.

XI. *Llanfrechfa Grange.* Very hot, harvest very early and good.—*Brecon, The Barracks.* Fine and very hot until the 26th, stormy and wet weather then set in, the temp. fell considerably, and at the close the wind was very cold.—*Douglas, Victoria Road.* With a R of 6·41 in., which has been only twice exceeded since 1874, with strong winds on nine, and gales on four, days, this was a wet and stormy month, but there were some beautiful days ; the temp. was fairly high, and the heavy R of 4th and 5th (1·90 in.) and of 9th (1·54 in.) was very welcome.

XII. *Maxwelton House.* The R in the early part of the month was very welcome after six weeks of dry weather, but that of the last week rather interfered with the corn harvest. Very hot from the 11th to the 24th. R ·50 in. more than the average.—*Lilliesleaf, Riddell.* Dry, windy and cloudy, and water in the wells has been short.

XVI. *Craigend Castle.* Very wet and showery, but warm and close.—*Ballachulish, Ardsheal.* Warm, but on no day excessively hot. R above the average.

XVI. *Coupar Angus.* R ·65 in. less than the average. Mean temp. 1° above average. There were two TSS, but neither was severe.

XVIII. *Glenaladale.* Warm and rather wet. Mean temp. 58°·4.

XIX. *Watten, H.R.S.* A good month. The opening and closing weeks wet, cloudy, and variable in temp. The middle portion dry, clear, mild and very fine.

XX. *Coolkelure.* Very wet, doing much injury to a very promising harvest—*Cork, Wellesley Terrace.* R about an inch above the average ; temp. normal.—*Broadford, Hurdlestown.* The wettest August on record, with the exception of 1891. R 2·06 in., and rainy days 3, above the average of 13 years.—*Miltown Malbay.* A rainy month, with high temp. and scorching sun whenever it blazed out. The last half rather stormy.

XXI. *Ballindoney.* A month of heavy R and bad TSS ; that on the 21st lasted all day, and the L from 7 p.m. to midnight was the finest ever seen here.—*Rathmines, Leinster Road.* Rather wet, windy and unsettled. The mean temp., however, was higher than in any August since 1893 ; the temp. exceeded 70° on 11 days.

XXII. *Tuam, Gardenfield.* A wet month, with R on 24 days, and the total 2·22 in. above the average.—*Lawderdale.* A wet month, with the wind between W. and S. on 27 days.

XXIII. *Belfast, Springfield.* More than the average R, but no floods and no damage to the crops.

SEPTEMBER.

I. *Kensington, Edith Road.* An extraordinary month of heat, drought and sunshine. Temp. 5°·1 above average. R only ·40 in., or less than one-fourth of the average, and the least in 15 Septembers. —*Muswell Hill.* The total R (·37 in. on three days) is 2·13 in., or 85 per cent., less than the average of 26 years, and is by far the smallest in September in that time. There was no R till the 18th, absolute drought for 18 days ending on that date, and partial drought for 43 days, with ·39 in. of R, ending on the 28th.—*Finchley, Etchingham Park.* The driest September since the gauge was started in October 1886, the total R (·36 in. on three days) being nearly 83 per cent. less than the average of 12 years. The first 17 days were dry, which, with the 31st of August, gave absolute drought for 18 days. Partial drought lasted from August 17th to September 28th (43 days), with ·38 in. of R on eight days.

II. *Haslemere, Hazelhurst.* Absolute drought for 18 days, and partial drought for 29 days, with ·19 in. of R. On 29th 2·17 in. of R fell in 14 hours, but did not penetrate the turf. Mean max. temp. of seven consecutive days 81°; 80° never having been recorded in September previously. Highest min. temp. 61° on 6th; no frosts in screen, four on grass. Mean temp. of month 61°. Mean temp. of the week ending 10th 69°, or 13° above the mean of that period for seven years.—*Cranleigh Common.* Remarkably fine, dry and warm, with no R of consequence till the 29th, when 1·08 in. fell. Max. temp. 81° on 7th and 8th, and above 70° on 13 days.—*Wallington.* Until the last few days extremely hot, dry and sunny, very like September 1895, but slightly cooler and wetter, though more sunny. R ·74 in., and rainy days 6, less than the average of 10 years. Mean max. temp. 6°·3 above, and duration of sunshine 70 hours in excess of, the average. The want of R becoming most serious.—*Tunbridge Wells, Camden Park.* The driest September in 15 years. R only ·53 in., or 2·14 in. less than the average.—*Birchington, Thor.* The driest September remembered, and very hot from the 7th to 9th, and again on 17th; some-

what cooler afterwards. Duration of sunshine 241 hours.—*Crossness.* R on only three days; none from August 29th to September 18th, nor from 19th to 29th.—*Lewes, Saxonbury.* Very dry, with calm, bright, sunny days and high temp.—*Burgess Hill.* Very warm. Temp. on 8th almost unprecedented.—*Bournemouth, Kempsey.* Abnormally dry and warm, with temp. above 70° on 16 days. Absolute drought for 17 days from August 31st, and partial drought for 41 days from August 19th, with ·28 in. of R.—*Lyss, Lingwood.* Duration of sunshine 243 hours; only one sunless day.—*Isfield Place.* R 2·06 in. less than in September 1897, and evaporation ·73 in. more; while the duration of sunshine shows an excess of 117 hours.

III. *Southgate, The Lawns.* Most unusual drought, causing great damage to gardens. Very varying temp.; R only ·40 in.—*St. Albans, The Grange.* Very warm; the mean temp. being 5° above the average, with very bright skies and dry atmosphere, and less than half-an-inch of R, falling on only four days.—*Slough, Upton.* Duration of bright sunshine 197 hours; 10 hours 5 minutes being registered on 10th.—*Culham Vicarage.* The first part of the month was very hot, and up to the 29th it was the driest September in 48 years; but taking the whole month, September 1865 was drier. For the 18 months ending September, the R is only an inch more than the average for a year; water is getting very short.—*Pyrton Manor.* R 1·55 in. less than the average of 12 years. Absolute drought occurred for 17 days ending 16th, and partial drought for 52 days, with only ·31 in. of R, ending 28th.—*Oxford, St. Giles'.* The warmest September on record, the mean temp. being nearly 9° above the average for 11 years. On six days the max. was above 80°. It is also the driest September both as regards total R (·38 in.) and rainy days (four). Absolute drought occurred for 17 days ending 16th, and partial drought for 52 days, with ·42 in. of R, ending 28th.—*Castle Ashby.* In the last ten years there have been five Septembers with less than an inch of R, but September 1898 has been drier and hotter than any, the temp. rising above 80° on seven days.—*Pitsford, Sedgebrook.* A month of continuous fine, bright weather. R 2·12 in. below, or less than one-fifth of, the average.—*Stamford, Duddington.* R only ·36 in. on two days; absolute drought prevailing for 28 days from August 30th to September 26th.—*Offord D'Arcy.* R fell on only one day (30th).—*Wisbech, Bank House.* The driest September since the record began in 1859, and the smallest monthly fall, excepting February 1886; R only ·20 in.

IV. *Colchester, Lexden.* Remarkably sunny and dry, and the first half very hot, but the last week cold. R only ·32 in.; absolute drought for 19 days ending 17th.—*Erwarton Hall.* The driest September for very many years.—*Ipswich, Bishops Hill.* The driest and hottest September registered in 28 years. The total R (·30 in.) being 1·95 in. below, or less than one-seventh of, the average.—*Rendlesham Hall.* Bright, warm weather, with very little R; only ·44 in. on three days.

V. *Bishops Cannings.* R 1·99 in., and rainy days 7, less than the average.—*Romansleigh Rectory.* Remarkably hot till near the end.—*Wellington.* Generally very warm and dry, with a large amount of sun. The heat was greatest from the 5th to 9th, when it attained a degree rarely registered in September. During the first 14 days no measurable quantity of R fell, but it was cooler and more rainy at the close. Total R only about half the normal.—*North Cadbury Rectory,* An extraordinary month; it contained the five hottest days of the year. and three which exceeded the hottest day in 1897, while the average max. for the first 17 days was 80°·9. It was by far the least cloudy month in two years. Drought was severely felt up to the 29th.—*Frome, Mells Rectory.* Seven days with shade temp. above 80°.—*Long Ashton.* A fine month, with the least R for 26 years.

VI. *Cirencester, Further Barton.* Remarkable for sunshine, heat and drought until the 17th, but a sudden change of temp. took place on the 18th, with frost at night.—*Campden, Hidcote.* Fine weather prevailed (like summer), but the last few days were cold.—*Cheltenham, Naunton Park Villas.* Very hot days and cold nights. Absolute drought from August 29th to the 16th.—*Ross, The Graig.* The driest and finest September since 1818, excepting 1865. R only ·46 in., none falling in the first 16 days; and in the 30 days ending 27th, only ·10 in. fell. The range of temp. (52°·7) was extraordinarily great, but the mean temp. was exceeded both in September 1895, and September 1865.—*Wolverhampton, Tettenhall.* R only ·56 in. Absolute drought prevailed for 17 days ending 16th, and partial drought for 30 days ending 28th.

VII. *Horncastle, Hemingby.* Very dry and warm; R only ·38 in. on three days.—*Hodsock Priory.* Hot and fine; very similar to 1895, but not so sunny. The max. temp. of the year (85°·8) occurred on 17th, the highest we have ever had in September. R very deficient, scarcely any fell till the 29th, when there was a nice fall. Harvest was finished early in the month in good order. Thanks to the R in

August we stood the drought well, and there was plenty of grass and the root crops were very good.—*Findern.* R only ·36 in., and none till the 20th.

VIII. *Chelford, Astle Hall.* Very hot most of the month. Slight frosts only on 23rd and 24th.—*Bolton, The Park.* Highly favourable throughout to the agriculturalist. Very little R, the total being 2·30 in. less than the average. Some days were remarkably warm, and there was a fair amount of bright sunshine. Mean temp. 1°·7 above the average.—*Southport, Hesketh Park.* Dry and very warm ; mean temp. 3°·5 above average. Cool during the last week, frost occurring on grass on four nights. Mean day-to-day temp. variability materially greater than in any other September recorded. Sea warm and calm, R two inches below average and brooks and underground water very low. A satisfactory amount of ozone, but a slight deficiency of sunshine.—*Chatburn, Middlewood.* R 2·68 in. below, and less than one-third of, the average of nine years.

IX. *Upper Midhope.* Extremely dry and very fine, with excessive heat at times.—*Goldsborough Hall.* Very dry with only ·20 in. of R up to the 27th. There were some very hot days, the max. temp. on the 17th being 80°, the highest registered during the year.—*Ormesby.* Very dry indeed, R only ·26 in. on four days, and very hot at the beginning, the max. temp. above 80° on several days.

X. *Ushaw College.* The driest September for many years. R only ·32 in. on two days.—*Brampton, Denton House.* Very fine ; grass grew in a most surprising manner. A good finish made with the corn harvest. R two inches below the average.

XI. *Llanfrechfa Grange.* Very fine and dry, and the R of 1·91 in. on the 29th was very acceptable. Water scarce.—*Douglas, Victoria Road.* A beautiful month on the whole, with many brilliantly fine days. Gales of short duration on 27th and 29th.

XII. *Lilliesleaf, Riddell.* Springs have been dry for two months, and all water has had to be carried from the river ; this has never happened before, though once in four or five years it has had to be carted for 10 days or a fortnight.

XV. *Craigend Castle.* Fine from 4th to 7th, and 21st to 26th ; the remainder wet and showery. Slight frost from 22nd to 25th.—*Ballachulish, Ardsheal.* The first half was hot, wet and thundery. White frost on the night of the 20th ushered in a spell of six fine days, with marked fall of temp.

XVI. *Coupar Angus.* R fell sparingly until the 29th, when 1·13 in.

fell, bringing the total up to the average. Temp. high, the mean being 4° above the average.

XVIII. *Glenaladale.* Very wet and warm; R 14·44 in., the fall exceeding an inch on seven days. Mean temp. 55°·5.

XIX. *Watten, H.R.S.* Very fine; high temp., a fair amount of sunshine, and some moisture. Very suitable for bringing on harvest.

XX. *Coolkelure.* Very soft and mild; a second bloom of myrtle in the open air. Excellent grass.—*Cork, Wellesley Terrace.* R ·16 in. above the average. Mean temp. high; that of the first 17 days (61°·5) being perhaps unprecedented.—*Broadford, Hurdlestown.* Fairly fine on the whole. R 1·16 in. above, and rainy days two below, the average for 13 years.—*Miltown Malbay.* Generally very fine and warm, and the heavy R which occasionally fell was before 24 hours evaporated by the brilliant sun.

XXI. *Ballindoney.* Very warm, and only one heavy fall of R. —*Rathmines, Leinster Road.* Very fine, warm and generally dry. Abnormal heat during the first three weeks, the temp. exceeding 70° on 13 days; the max. (82°·8 on 6th) has only once been exceeded in any month since the record commenced.

XXII. *Tuam, Gardenfield.* Mostly fine and warm; R nearly a fourth less than the average. Max. temp. on 4th 78°·6, this being the hottest day of the year.

XXIII. *Belfast, Springfield.* R till the 27th only 1·63 in., but from 27th to 29th 2·46 in. fell, the total being only 10 per cent. below the average. All crops good and well saved.

OCTOBER.

I. *Kensington, Edith Road.* Very warm and rather wet; temp. 5°·2 above average, and the highest in 15 Octobers.—*Muswell Hill.* From 1st to 13th R fell on only two days, while on 12 out of the remaining 18 days, 3·39 in. fell, the total being 16 per cent. above the average.

II.—*Haslemere, Hazelhurst.* An open month with the ground in excellent condition for autumn planting. Mean temp. 52°; only one frost. R on 19 days.—*Chiddingfold.* Mean temp. 52°·4, the highest on record, and 10°·1 higher than that of October, 1892.—*Cranleigh Common.* Warm and dry till the 13th, then more or less R almost daily to the end. Temp. 60°, or above, on 15 days.—*Abinger Hall.* Open and warm to the end, with autumn flowers in abundance. The

much needed R came in the last half of the month.—*Birchington, Thor.* Very mild and warm, and everything much benefited by the R.—*Lewes, Saxonbury.* Fine and dry till 14th, when the long drought ended; then close and warm to the end.—*Burgess Hill.* Fine till 14th, then wet and unsettled. *Bournemouth, Kempsey.* Very mild, especially at night, the min. temp. being above 50° on 15 days.—*West Dean.* Very warm, with R in excess of the average. All the wells in the neighbourhood very low, and most of them dry till the 17th. Wind E. from 1st to 17th, S.W. and variable after.

III. *St. Albans, The Grange.* Exceedingly mild, the mean temp. nearly 6° above the average. The wettest month of the year, but the R scarcely up to the average.—*Throcking Rectory.* The warmest October observed in 19 years.—*Slough, Upton.* The drought broke up on the 8th, and the total R is about the average for the month. Duration of sunshine 69 hours, about one-third of the amount in September; eleven days were sunless and four almost sunless, or half the month practically without sun.—*Culham Vicarage.* A fine month, though there was a good deal of R, which mostly fell in heavy storms. Temp. high.—*Pyrton Manor.* R one inch above the average of 12 years, but rainy days normal.—*Oxford, St. Giles'.* Very warm and open, with no frost. The much desired R came in satisfactory quantity, the fall being nearly double the average.—*Pitsford, Sedgebrook.* Very warm and pleasant. R ·73 in. less than the average of 10 years. *Stamford, Duddington.* Exceptionally mild, the mean temp. being 3°·2 higher than the average. The R, 2·63 in., of which 1·84 in. fell in the week ending the 22nd, is ·35 in. less than the average.

IV. *Colchester, Lexden.* Calm, mild, and somewhat dull. Partial drought for 44 days, with ·44 in. of R ended on the 14th. Frost on grass on five nights.—*Ipswich, Bishops Hill.* Fine, warm, and very dry till the 17th, followed by heavy R. Total ·74 in. less than the average.

V. *Bishops Cannings.* R 1·90 in., and rainy days two, more than the average. The ground was too hard for ploughing in the early part, but worked well, though not at all wet, at the end. The well here was pumped out for the first time in 30 years on the 15th.—*Tavistock, Whitchurch.* Wet, cloudy, damp, and rather warm. Showers fell every day after the 4th, excepting the 12th, but no measurable quantity fell during the first six days, or on the 9th. Total 50 per cent. above the average.—*Mamhead Rectory.* R 8·11 in., or about double the average; on 15th, 16th, and 17th, the falls were 1·70 in., 1·65 in., and 1·72 in.

—*Wellington.* Generally very mild, with a large R and little sunshine. R and temp. considerably above the normal.—*North Cadbury Rectory.* The first week was very dry and the first three days were warm, brilliant and still. After that it was very cloudy, with frequent small rains, varied by 3·19 in. in 100 hours from 15th to 19th. The mean temp. was high, the nights in the latter part especially being remarkably warm. Though 4·02 in. of R fell, the ground was by no means very wet at the close, and the streams were still low.

VI. *Further Barton.* Dry till the 9th, with much haze, then R almost every day with high temp.—*Ross, The Graig.* The fine weather which set in on May 24th continued, with only a slight interval in August until the 13th of this month, or 113 days.—*Lugwardine, The Laurels.* R on 13 consecutive days and ·98 in., ·90 in., and ·51 in., on 16th, 17th, and 18th.

VII. *Worksop, Hodsock Priory.* The mean temp. and the absolute min. in shade are higher than in any other October since observations commenced in 1876. Garden flowers still untouched by frost.

VIII. *Chelford, Astle Hall.* Very wet and very mild. No frost.—*Bolton, The Park.* Mild and humid throughout, with little bright sunshine. During the first 14 days only ·05 in. of R fell, but from the 15th to the end, more or less R fell daily. It was the mildest October since 1886, the mean temp. being 4°·3 above the average, but the duration of bright sunshine is 24 hours less than the average. R fell on 19 days, the total being ·51 in. above the average.—*Southport, Birkdale.* The warmest October on record, but also one of the most sunless, notable for exceptional equability of temp. Mean temp. 4° above the average, and 0°·5 above that of the warmest previous October, viz., 1886. Frost on grass on only two nights, and none in shade. Mean daily range nearly, and mean day to day variability absolutely, the lowest in 28 years. Winds easterly for the first three weeks, then S. to W. Very little R during the first half, almost daily falls afterwards, with stormy weather at intervals. R ·50 in. below the average. Brooks and subsoil water, until the 17th, remarkably low, but rising rapidly later. Very little ozone and great deficiency of sunshine. Sea quiet and extremely warm.—*Chatburn, Middlewood.* R ·66 in. less than the average of nine years, all falling in the latter half of the month.—*Broughton-in-Furness.* The first half was dry, with cold E. winds; the latter part very wet and stormy, with violent wind at times.—*Seathwaite Vicarage.* Very mild and continuously wet from 15th to the end. Total R 9·00 in.

IX. *East Layton Hall.* Very dry at the beginning of the month, but the much needed R came about the middle, doing much good.—*Ormesby.* Fine till the 10th, very wet afterwards and warm.

X. *Unthank Hall.* An unusually wet month, R 6·72 in., with heavy winds and floods.—*Pawston* [*Coldstream*]. Very mild throughout, and the earlier days very warm for the season. R 6·53 in., and the river has not been so high for 18 years. Considerable damage has been done in the district by excessive flooding of the various streams. —*Brampton, Denton House.* The first half of the month was fine, the second half brought gales and floods. R 2·22 in. above the average.

XI. *Oystermouth.* The wettest October on record, R 10·36 in.—*Llandefaelog-fach.* Very wet and stormy after the first week.—*Douglas, Victoria Road.* June-like weather prevailed to the 9th, but during the remainder R fell almost daily, and at times heavily. The temp. was high throughout with very little sunshine. The weather was less stormy than usual.

XII. *Maxwelton House.* Fine and warm; the first half dry, the second half wet, with fine days at intervals.

XV. *Craigend Castle.* The first half fine and clear with slight showers; the second half wet and stormy.—*Ballachulish, Ardsheal.* Fine, warm, and calm to the 14th, then easterly gales to the 19th, followed by S. and S.W. winds to the end, with much R.

XVI. *Dollar.* Generally dull; dry in the first half, stormy and wet from the 15th to the end.—*Coupar Angus.* The R, 5·21 in., and the mean temp., 48°·6, are the highest recorded for October during 20 years, the temp. being 5°·4 above the average. Frost on only one night.

XIX. *Watten, H.R.S.* The first half was fine, the second half wet and stormy.

XX. *Cork, Wellesley Terrace.* The greatest R (7·37 in.) in October since 1853, the fall from 14th to 16th (3·51 in.) being equal to the average for the month. Temp. 1°·5 above the average.—*Broadford, Hurdlestown.* Fairly fine and very mild, R ·30 in. less, and rainy days three more, than the average of 14 years.—*Miltown Malbay.* Very mild and warm, and the latter half very rainy. Very few of the usual October storms on this coast.

XXI. *Rathmines, Leinster Road.* Dry and summerlike till 13th, when a severe R storm with S.E. and N. gales set in and continued till 18th, the sun never being seen in the six days; showery and unsettled after. Temp. high throughout.

XXII. *Ballinamore, Lawderdale.* A seasonable good month.

XXIII. *Belfast, Springfield.* The R on the 17th, 1·71 in., has been exceeded only three times in 24 years.

NOVEMBER.

I. *Muswell Hill.* R ·75 in., or 27 per cent., less than the average of 26 years. Absolute drought prevailed for 16 days ending 19th, though there was much wet fog during that time. R fell on 10 out of the remaining 11 days.—*Finchley, Etchingham Park.* R ·47 in., or 18 per cent., less than the average of 12 years. R fell on only four days out of the first 19, there being 10 consecutive dry days, ending on the 13th, while only two out of the remaining 11 were rainless.

II. *Cranleigh Common.* Mostly fine and dry till the 19th, then much R to the end. Max. fall of the year 1·72 in., on 23rd. Temp. above average; only five frosts.—*Abinger Hall.* Very mild and dry till the 20th; very wet and stormy after.—*Wallington.* Warm, and on the whole sunny, but very wet during the last 10 days. It was the sunniest November, with the exception of 1894, in 12 years, the total duration being 20 hours above the average. R ·12 in., and rainy days one, less than the average of 10 years.—*Birchington, Thor.* Mild with a good deal of sunshine, though there were 10 sunless days. Gales occurred on five days.—*Lewes, Saxonbury.* Mild and dry till 25th; afterwards wet, with fog and dark days.—*West Dean.* A warm month with cold spells. R in excess of the average. Frost on 11 nights.

III. *St. Albans, The Grange.* Mild, with R about half an inch below the average, but on more than the usual number of days.—*Pyrton Manor.* R 1·01 in. above the average of 12 years.—*Oxford, St. Giles'.* R about the average, but the temp. well above it, especially in the early part of the month. Fog on 10 or 11 days. S on two days.—*Pitsford, Sedgebrook.* R ·51 in. less than the average of 10 years.

IV. *Colchester, Lexden.* Mild and dull, with occasional fog till about the 20th, then frequent R with low even temp.—*Ipswich, Bishops Hill.* Much fog and welcome steady showers after the second week. R ·67 in. above the average.—*Rendlesham Hall.* Very wet at the latter end of the month, with strong S.W. and W. gales. Colder nights for the last 10 days.

V. *Bishops Cannings.* R ·12 in. less than the average. No water in field drains or ditches at the end of the month.—*Wellington.*

Generally very moist, mild and sunless, with frequent fogs. Temp. much above the normal, and R about 50 per cent. more than the average.—*North Cadbury Rectory.* Very mild, still, and rather dull, with a few beautiful days; the first frost to destroy dahlias, etc., occurring on the evening of the 22nd.

VI. *Clifton, Pembroke Road.* R almost exactly the average. A dry period prevailed from the 6th, which broke up on the 22nd, and was followed by heavy R with low temp.—*Further Barton.* Warm, with frost on only seven days; frequent fog during the first half. A few very fine days.—*Ross, The Graig.* Very fine and dry till the 22nd; dahlias and tender plants remaining uninjured; then a sudden and extraordinary change took place, the bar. dropped nearly an inch in 12 hours, and remained very low for five days. Total R below the average, and nearly all fell in five consecutive days, 22nd to 26th.—*Wolverhampton, Tettenhall.* R 65 per cent. of the average.—*Coventry, Priory Row.* Remarkably mild and beautiful; the forest trees holding their leaves till past the middle of the month. A sudden snap of cold occurred on the 22nd with very low bar. but not much wind, and two or three inches of S fell on 23rd.

VII. *Horncastle, Bucknall.* R below the average, and temp. about 1° above it.—*Hodsock Priory.* Mild till the last week, and without any quantity of R till the 23rd, when there was a heavy fall of S, which soon melted. Up to this date garden flowers had been untouched by frost.

VIII. *Chelford, Astle Hall.* Very warm; no frost to cut down plants till 19th.—*Bolton, The Park.* The first three weeks were mild, but on 21st a fall of temp. with N. wind took place, followed early on 22nd by a severe S storm, the mean depth of which was seven inches, yielding ·54 in. R or S fell on 20 days, and was ·04 in. less than the average. Duration of bright sunshine a little more than the average.—*Southport, Birkdale.* Exceptionally warm for the first 18 days, much cooler after. Mean temp. 2°·2 above average. Frost in screen on four days, and on grass, or S, on 13 days. Variable winds. R slightly under the average. Extremely little ozone after the first week. A good record of sunshine.—*Chatburn, Middlewood.* R ·81 in. more than the average of nine years.—*Broughton-in-Furness.* Very stormy and wet for the first week or so, then some very fine days, followed by dull, wet weather, gradually clearing to sharp frost, and heavy S on the 22nd; the remainder changeable.

IX. *Goldsborough Hall.* Very mild till the 22nd, which was very

cold with strong N.W. wind, the max. temp. being only 36°, while by 9.30 p.m. the temp. had fallen to 21°.

X. *Brampton, Denton House.* Mild and damp, but R a little below the average.

XI. *Brecon, The Barracks.* Very mild during the first three weeks, then raw and cold, with some frost and a fair amount of R.—*Llandefaelog-fach.* With the exception of the first week, the usual November weather prevailed, foggy and dark, with a few extremely cold days.—*Llanystumdwy, Talarvor.* Exceedingly mild until the 27th and 28th, when there was frost and a little S.

XII. *Lilliesleaf, Riddell.* Stormy, with frequent R, heavy at times.

XV. *Craigend Castle.* Wet, stormy, and foggy, with gale from 1st to 3rd.—*Ballachulish, Ardsheal.* Drier than usual, excepting the unprecedented fall of 3·40 in. on 1st.

XVI. *Coupar Angus.* The month opened very mild and closed very cold. R about double the average.

XIX. *Watten, H.R.S.* Wet and variable; calms and storms in turn, and intense frost on 28th.

XX. *Coolkelure.* Very damp and mild, excepting three or four days towards the end, when there were cold N. winds.—*Cork, Wellesley Terrace.* Though there were 25 rainy days, the total fall is 1·18 in. less than the average. The mean temp. of the first 20 days was 49°, and of the last 10 days 37°. The bar. fell 1·30 inches in 24 hours, from 21st to 22nd, followed by S.—*Cahir, Duneske.* The air was very damp during the month, the wet and dry bulb thermometers reading almost alike, except on the 13th and 28th. S.W. wind prevailed till the 7th, then W. till the 23rd, followed by N. till the 29th, a very unusual wind to bring heavy rains, but it did so.—*Broadford, Hurdlestown.* The wettest November on record, and low lands were much flooded. R 1·43 in., and rainy days three, above the average of 14 years.—*Miltown Malbay.* With the exception of one week in the middle, the weather was miserably damp, foggy, and tempestuous. Cold penetrating R from N.E., with occasional heavy gales during the last 10 days.

XXI. *Kilkenny, Sion Villa.* Very variable, generally cold and raw, but mild weather intervening at times up to the 13th. Gales and bitter weather from 22nd to 27th.—*Rathmines, Leinster Road.* Changeable and rather foggy, with a small R and extremely high temp. till the 18th, afterwards much colder, with two sharp frosts. A heavy R storm continued from 22nd to 25th, the fall on 23rd, 1·94 in., being the greatest since the record commenced.

XXII. *Tuam, Gardenfield.* Changeable and mild. R ·25 in. below the average. Frost on five nights, severe on 21st, killing tender plants.

XXIII. *Belfast, Springfield.* A fine open month, the only frost of any consequence being on the night of the 21st, when the temp. fell to 24°. The 22nd and 23rd were cold, with sleet and R, the latter being the darkest and most miserable day of the year.

DECEMBER.

I. *Kensington, Edith Road.* Remarkably warm; temp. 7°·2 above average, and by far the highest in 15 years. On 21 days the temp. exceeded 50°, and on six nights did not fall below 50°. R very little above average.—*Muswell Hill.* R ·18 in., or 7 per cent., above the average of 26 years.

II. *Haslemere, Hazelhurst.* An open, warm, rainy month. Mean temp. 44°, min. 51° on two nights, and between 40° and 50° on 13; frost in screen on 8 nights, on grass on 13.—*Abinger Hall.* Mild and open throughout; a few frosts, and quick changes of temp.—*Wallington.* The warmest December in the 13 years recorded, and yet the mean bar. is the highest, excepting 1889, and the mean humidity the lowest. The amount of cloud is also the greatest, except 1890, and yet the month was on the whole wet and sunny. R ·67 in., mean temp. 7°·4. cloud 1·1, and sunshine nine hours, above average.—*Birchington, Thor.* Extremely mild, the shade max. being above 50° on 20 days, while the min. on 5th and 6th was above 50°. Duration of sunshine 64 hours.—*Lewes, Saxonbury.* Mild, with a good deal of fog and mist. S. to W. gales from 27th to 29th.—*Burgess Hill.* Mild and wet. Severe gale on 27th.—*Isfield Place.* Mean temp. 44°·3; wind chiefly S.W. and W.; calm on 17 days. Duration of sunshine 51 hours.—*Bournemouth, Kempsey.* Remarkably mild under the influence of westerly winds. Temp. above 50° on 20 days, and the min. on 6th 53°·3. Frost in shade on only one night.

III. *St. Albans, The Grange.* Very mild and rather wet. Mean temp. 6°·3 above, and R an inch more than, the average.—*Slough Upton.* Duration of sunshine 49 hours. Nine sunless days.—*Watlington, Pyrton Manor.* R about the average of 12 years.—*Oxford, St. Giles'.* Windy and warm; mean temp. 4° above the average of 11 years.—*Sedgebrook.* R ·06 in. above the average of 10 years. Mean temp. 42°·9.—*Stamford, Duddington.* Unusually mild, the mean temp. being 43°·9, while that for the week ending 10th was 48°·3.

IV. *Colchester, Lexden.* Generally mild and unsettled.—*Ipswich, Bishops Hill.* The first and last weeks were very unsettled, with squalls and R. Temp. variable, with some frosty nights during the latter half. R ·81 in. above the average.—*Rendlesham Hall.* The wettest and windiest month of the year, particularly during the latter half.

V. *Bishops Cannings.* R ·60 in. above the average. The fall of the last three months (11·48 in.) caused water to rise considerably in wells, but at the end of the year many ditches were dry which are generally running. —*Tavistock, Whitchurch.* Warm, wet, damp, foggy and cloudy. The temp. rose to or above 50° on 17 days, and fell below 32° on only two days.—*North Cadbury Rectory.* Abnormally warm, the max. being above 50° on 20 days, and never below 40°; mean max. 52°·2. Frosts few and slight; no S. Humidity and cloudiness excessive almost throughout, but very little fog. Ponds low at the end, and each heavy R was soon absorbed by the soil.

VI. *Clifton, Pembroke Road.* R 1·42 in. above the average. A rainy month, with the exception of the week ending 25th, when the temp. was lower. The last week was very stormy, with great and sudden fluctuations of pressure and temp.—*Cheltenham, Southam Villa.* Mean temp. 46°·1, or 7°·9 above the average of 21 years, and by far the highest recorded. Max. temp. above 50° on 21 days, and min. above 50° on five days.—*Ross, The Graig.* Except from the 5th to 8th, the month was very fine till the 25th, with many bright, enjoyable days. Mean temp. 46°·4, being the highest in 40 years; followed by 46°·0 in 1868. On 19 days the max. was above 50°, and frost occurred only twice.—*Bodenham Vicarage.* Extraordinarily high temp. both day and night, the min. on 10th being 53°. The R of the 27th (·73 in. in a few hours) was the only fall of the year which flooded the roads.— *Coventry, Priory Row.* Very mild, and for the most part dry and pleasant. Wet after the 26th.

VII. *Horncastle, Bucknall.* Mean temp. 2°·5 above the average, and great preponderance of westerly winds.—*Hodsock Priory.* A very warm month, but with little R till just the end. The mean temp. was 3° higher than in any of the previous 22 Decembers, and the nights were warmer than those in April. The only S fell on the last day.

VIII. *Chelford, Astle Hall.* Very mild, very little frost and a great deal of R.—*Bolton, The Park.* Very mild, with many wet days and frequent oscillations of temp. Mean temp. 45°·7, or 7°·2 above the

average of 13 years. The highest and lowest maxima, as well as the highest and lowest minima, were all record figures for December. Frost was recorded on only one day. R ·24 in. above the average. Duration of sunshine 15 hours, of which five hours occurred on the 30th.—*Southport, Hesketh Park.* Unprecedentedly warm; mean temp. exceeding that of any December, January, February or March during 27 years, and being no less than 7°·5 above the average, and 3°·2 higher than that of the next warmest December. Absolute max. in shade, absolute min. in shade, mean 1 ft. underground, and mean lake and sea temp., each materially above the highest values recorded for December. Frost in screen on only three days, but on grass on twelve days. Wind movement greater than in any other December; great prevalence af S. to W. winds. Total R ·50 in. below average, but spread over an unusual number of days. Much ozone; a good record of sunshine; air frequently very clear. Strong gales on 2nd, 10th 27th and 28th, and moderate gales on various days. Some ice on lake on 31st.—*Chatburn, Middlewood.* R 1·49 in. above the average of nine years.—*Broughton-in-Furness.* Characterised by dull, rainy days and strong winds, at times violent.

IX. *Upper Midhope.* Mild until the 19th; high winds from 1st to 14th and from 23rd to 28th. Heavy R on nine days, frost on seven days.—*Goldsborough Hall.* Some very high temp. during the first half, the max. reaching 57° on the 5th. Very little frost, and S on only one day.—*Thixendale.* Very mild to 20th, on which day S fell. A green Christmas.

X. *Brampton, Denton House.* Wet and disagreeable; only four days without R, and the total 1·69 in. above the average.

XI. *Llanfrechfa Grange.* Very mild, the night temp. sometimes not falling below 51°; little frost. The last week very stormy, with alternate fine and rainy days.—*Dowlais, Gwernllwyn.* An exceptionally wet and rough month, with great floods in the district. R 8·76 in. on 25 days.—*Llandefaelog-fach.* Very wet and stormy. Temp. high in the early part.—*Pool Quay Vicarage.* Mean temp. 7°·3 above the average of 10 years. On five nights the min. was above 50°.—*Colwyn Bay, Nant-y-Glyn.* The warmest December in 19 years, the mean temp. 48°·0, being 3°·9 higher than in 1894, the next warmest.—*Douglas, Victoria Road.* Warm and stormy beyond precedent. Calm and generally fine from 12th to 21st, but constant S. and S.W. gales for the first 11 and last 10 days. R on no fewer than 27 days, yielding 4·55 in., of which nearly 3·00 in. fell in the last 10 days.

XII. *Lilliesleaf, Riddell.* Very warm for the season. R a good deal more than the average. Many large trees blown down in the gales. A favourable month for agriculture.

XV. *Dumbarton, Leven Shipyard.* The 29th was the only dry day, the total R being 7·47 in.—*Craigend Castle.* Wet and stormy, with frost only from 29th to 31st.—*Ballachulish, Ardsheal.* R 16·67 in.; the greatest monthly fall yet recorded at this station. The fall from 1st to 10th averaged ·92 in. per day.

XVI. *Balquhidder, Blaircreach.* R 19·87 in., of which 8·69 in. fell in the first week.—*Balquhidder, Stronvar.* R 18·01 in., the greatest fall ever recorded in a month.—*Coupar Angus.* R slightly above the mean., but no excessive falls. The weather generally was very fitful. Mean temp. 38°·6, or 4°·3 above the average.

XVIII. *Drumnadrochit.* R 9·73 in. on 30 days; the greatest fall, and number of rainy days, in any month in 13 years.

XIX. *Watten, H.R.S.* Very variable; a series of storms of wind and R interspersed with keen frosts of short duration.—*Melness, Talmine.* A very broken month, with strong S.W. gales every alternate day. Frost on the last two days; a little S from 21st to 23rd.

XX. *Coolkelure.* Very mild and damp. Frequent violent gales, sometimes accompanied by heavy R, all from W. or S.W., and remarkable for the suddenness with which they sprang up and ceased.—*Cork, Wellesley Terrace.* R an inch less than the average. The mildest December for at least 15 years. Mean temp. 45°·4, or 3°·2 above the average.—*Killarney.* The cloudiest month for years; mean 8·4.—*Cahir, Duneske.* Exceedingly damp, the roads never becoming dry.

XXI. *Ballindoney.* Mild, with severe storms, that on the 26th especially so, with T, L and heavy R.—*Kilkenny, Sion Villa.* Very damp, cold and raw, with occasional mild intervals. Stormy at times from 8th to 18th and from 25th to 30th.—*Rathmines, Leinster Road.* Abnormally mild; the mean temp. (45°·9) exceeding by 2°·9 that of any other December on record. Although so mild, the weather was very dry, and gales, although frequent, were not severe. No S, and hardly any frost.

XXII. *Tuam, Gardenfield.* Wet and mild. R nearly a fifth above the average. Frost on four nights; no S. Stormy on nights of 25th and 27th.—*Lauderdale.* Wet and stormy. Prevailing winds W. and S.W.

XXIII. *Bloody Foreland, Ardnadrean.* R 10·00 in.; the greatest monthly fall remembered.—*Horn Head.* Very wet, with high temp., and a great deal of wind.

OBSERVERS' NOTES ON THE YEAR 1898.

ENGLAND.

DIVISION I.—MIDDLESEX.

STAINES, CHERRY ORCHARD.—My well failed for the first time in 18 years.

TWICKENHAM, HAMPTON ROAD.—R 4·76 in., and rainy days 14, less than the average of 10 years.

KENSINGTON, EDITH ROAD.—Remarkable for warmth and dryness. R 5·27 in. below the average, and the smallest in 15 years. In the first nine months only 10·00 in. fell, and in the 12 months ending September, only 13·46 in. There was no absolute drought, but partial drought for 44 days, with ·35 in. of R, ending September 28th. Only one slight TS. Mean temp. 52°·5, 2°·5 above the average, and 0°·5 higher than in 1893, the next warmest year. The min. temp. 27°·3 is abnormally high.

WESTBOURNE GROVE.—The driest year since the record began in 1882, the falls being frequent but small, and no absolute drought occurring. In the first nine months only 10·68 in. fell.

CAMDEN SQUARE.—The mean R here for the 40 years, 1858–97, was 25·46 in.; the only years with less than 20 inches have been—

1858	1864	1874	1887	1893	1898
in.	in.	in.	in.	in.	in.
18·77	16·93	18·82	19·21	19·80	17·69

therefore, 1898 was, with the exception of 1864, the driest of 41 consecutive years.

CHILDS HILL, HELENSLEA.—R 8·66 in. less than the average of 20 years., and the smallest in any year of the 24 recorded; 1887 being the next driest with 1·77 in. more R.

CROUCH END, AUBREY ROAD.—In the 12 months ending September, only 15·12 in. of R fell.

MUSWELL HILL.—R the least in 26 years, being ·45 in. less than that of 1893, and 8·27 in., or nearly 30 per cent., below the average.

Rainy days 17, or more than 9 per cent., below average. There were three months with an excess, May, October, and December, the other nine months had a deficiency, it being greatest in September, which had less than a sixth of its average. There was absolute drought for 16 days ending July 17th, for 18 days ending September 17th, and for 16 days ending November 19th. Partial drought for 43 days, with ·39 in. of R, ending September 28th.

FINCHLEY, ETCHINGHAM PARK.—The year was remarkable for great deficiency of R, the total being the smallest since the record began in 1886, 1·90 in. less than that of 1887, and 7·06 in., or 27 per cent., less than the average of 12 years. The number of rainy days is 15 less than the average. There was absolute drought for 18 days ending Suptember 17th, and partial drought for 43 days with ·38 in. of R ending September 28th. There were nine months with a deficiency and three with an excess. There was only one day with a fall of more than an inch.

DIVISION II.—SOUTH-EASTERN COUNTIES.

HASLEMERE, LOWER STREET.—R 3·71 in. below the average of 25 years. There were two falls exceeding two inches, 2·42 in. on September 29th, and 2·34 in. on November 23rd; only six such falls having occurred in the previous 25 years. Seven or eight inches of S fell on five days in March, and two or three inches at the end of November.

HASLEMERE, HAZELHURST.—The winter was warm till March, which was the coldest month of the year (mean temp. 38°), and heavy S fell from the 24th to the 26th, which drifted to a depth of 8 feet in the lanes. In the first nine months the R was 15·52 in. and in the last three 16·90 in., making a total a little below the average. There was not much drought technically, but the great deficiency of R with much sunshine and high temp., made the ground very dry.

GRAYSWOOD HILL.—Very dry and trying to vegetation; long drought alternating with deluges of R.

HASLEMERE, WEYCOMBE.—The well here in the green sand, 45 feet deep, never failed (since 1865) till this year. The spring began to run again December 4th.

HAMBLEDON.—R 3·33 in. less than the average, the deficiency being greatest at the end of October, when it was 4·55 in.

WITLEY, FERNSIDE.—A mild winter, S falling only on March 25th to 27th, when there was a blizzard. Very cold weather in April and May, with N.E. and E. winds, made the spring late. The effects of drought in July and August were augmented by high winds, and in autumn there was a scarcity of water, the springs being unusually low. The weather continued mild to the end of the year, frosts being few.

CRANLEIGH COMMON.—From January to April the weather was dry and mild. May was wet. August and September fine and warm, especially the latter month. From October to December was mild with R moderate for the season, but nearly half the total for the year. The only TS noted was on October 29th.

FARNHAM, THE BOURNE VICARAGE.—R 4·12 in. less than the average of 20 years, notwithstanding which there have been three drier years, 1884, 1887, and 1892.

DORKING, FIR TOR.—The country was more dried up in September and the fields more bare than can be remembered before. Some trees by the roadsides shed their leaves early, but most trees later than usual, and they never assumed autumn tints.

GUILDFORD, CRAIGIE.—The year threatened to be very dry, but the R of the last three months brought the total up to about 1·50 in. less than the average.

REIGATE, WOODHATCH LODGE.—R 7·25 in. below the average of 18 years, and the smallest recorded.

REIGATE, DOODS.—R 79 per cent. of the 17 years' average, and the smallest recorded, 1884 coming next with 22·97 in. Not a single fall of an inch in 24 hours. Very high temp. in September, and much above the average to the end of the year.

RED HILL, OXFORD ROAD.—R for 10 months, January to October, only 15·89 in., or 8·64 in. less than the average.

CHERTSEY, OTTERSHAW.—R 2·10 in. below the average of 12 year, smaller falls occurring in 1887, 1889, and 1893. The drought in 1898 was more destructive to trees and shrubs than in any other year, and all surface water ponds were dry.

DYMCHURCH RECTORY.—Remarkable for deficiency of R, the total being six inches below the average of five years. Dividing the 24 hours into day and night, there were 301 rainless days and 276 rainless nights.

TENTERDEN.—R about eight inches less than the average, and the least in 35 years. In the 12 months ending September 30th, only

18·08 in. fell. Great deficiency in springs, wells, and ponds, throughout the year. Duration of sunshine 1,713 hours. Fewer and slighter frosts than in any of the preceding 20 years. The winter generally warm and dry, the spring and early summer cold and wet, especially May. July was very dry. August and September were very hot, with 17 days with temp. above 80°. Only 2·68 in. of R fell in the three months, July to September, yet the max. fall of the year was ·98 in. on August 7th. The drought broke after the middle of October, but the R continued below the average through October, November, and December.

SWATTENDEN.—The driest year since the gauge was fixed in 1865.

FOLKESTONE, CAPEL LODGE.—Phenomenally dry. About 10 inches less than the mean.

HYTHE, FROGHOLT.—A year of drought and of exceptionally low springs. Wells dry in every direction. The feature of the year was the autumn drought, following a very dry summer.

TUNBRIDGE WELLS, CAMDEN PARK.—The driest year since observations began in 1884, the R being 6·16 in. less than the average. The year also established three other "records," viz., the driest January; the driest September; and the smallest number of rainy days, 157, 31 less than the average. The year passed without a fall of an inch in the rainfall day, making 28 months without a daily fall of one inch.

HORSMONDEN, SPRIVERS.—May was wet, which insured a big hay crop. July, August, and September, and part of October were very dry, but a fall of an inch in August saved the hops. A good deal of R in the last three months.

TUNBRIDGE, PRIMROSE HILL.—Winter was very mild and dry, and no S fell except on March 3rd and 25th. Spring was cold and ungenial; May being the wettest month of the year. Summer was remarkable for great drought, absence of TSS, and great heat in August and September. The last quarter was rather wet and very mild, no frost occurring till the middle of November.

MAIDSTONE, MOUNT HOUSE.—The smallest R since 1884. The driest January since 1880, and the driest September in the record which began in 1870.

ST. PETERS.—R below the average, but want of water was not severely felt. Extremely high temp. through November.

MARGATE, APSLEY HOUSE.—R 4·50 in. below the average, and the smallest amount recorded in 18 years. The mean temp. shows the year to have been also the warmest.

CHISLEHURST, SOUTHLAUND.—R less than in any year since 1880, with the exception of 1884, when 1·25 in. less fell. But for the large R of May, farmers say that there would have been no crops. The total fall up to the end of April was the least in any year since 1880, and in the 10 months, January to October, only 13·15 in. of R fell, being the smallest amount in any corresponding period.

ROCHESTER, ST. MARY'S HALL.—The small R of the first two months of the year and of the autumn of 1897 caused scarcity of water and lowness of the springs in the summer, and at the close of the year wells and springs were lower than they had been for half a century. The absence of TSS, and the drought of July, August and September, dried all vegetation, and proved too severe for some trees.

BLACKHEATH PARK, ELMSDALE.—A very dry year, excepting May; excessive heat in August and September.

ANGMERING.—Though the ground was not so dry as to injure the crops, many wells had to be deepened, owing to the failure of springs.

CHICHESTER, WESTGATE.—R 5·30 in. less than the average of 50 years.

CHICHESTER, OAKLANDS.—The first nine months had about seven inches less than the average R, and the last three months of 1897 about 3·50 in.; as a result, ponds and wells dried up which had not been known to fail for 40 years.

EARTHAM HOUSE.—Wells lower than ever known before, and most of them quite dry. In the one here the water fell 67 ft. 6 in. below the winter level.

EASTBOURNE, EAST DEAN.—The phenomenally small R was felt very acutely on the South Downs in the autumn. Cattle and sheep had to be driven daily many miles to water, while as much as £1 for a load of water was paid at East Dean.

BRIGHTON W.W., GOLDSTONE BOTTOM.—The driest year on record; R 9·64 in. less than the average of 27 years.

BRIGHTON W.W., LEWES ROAD.—The driest year on record; R 9·82 in. less than the average of 32 years.

BEXHILL, THE GRANGE.—Every month, excepting March and May, had less than the average R. September had the least, and May the most, recorded in those months since the record began in 1871.

FALMER.—R nearly nine inches less than the average, and the least recorded in 39 years, the driest previously being 1864, when ·14 in.

more fell. Almost all the deep wells in the district between Lewes and Brighton were empty for nearly six months.

LEWES, BEDFORD LODGE.—The driest year known; R 11·46 in. below the average.

BURGESS HILL, OAKROYD.—A cold spring, a dry summer, and wet, stormy and mild autumn and winter.

GUESTLING RECTORY.—It is remarkable that in such a very dry year there should be only two absolute droughts (January 10th to 29th inclusive, and August 30th to September 17th inclusive) and no partial drought at all.

WINCHELSEA, THE FRIARS.—The smallest R since the record has been kept.

MARESFIELD, FOREST LODGE.—Deficient as the R was in 1897, the deficiency has been seriously aggravated in 1898, eight months having been in defect of the average of 40 years ending 1895, and only one (May) in any marked excess. The deficiency from the average was, in January, 1·12 in.; July, 2·28 in.; August, 1·40 in.; and September, 2·32 in.; while the only excess exceeding an inch was in May, 1·65 in. The total deficiency being 9·29 in., and the year was the driest since 1858. Wells were dry in all directions; but very strangely, in the village of Nutley (a mile N. of Forest Lodge) the supply in several wells was in excess of that of ordinary years. I wholly fail to see any explanation of this.

WORTH, SOUTH HILL.—R unusually deficient, and many wells and springs failed.

TOTLAND BAY.—Total R 90 per cent. of the average. January, March, July, August and September were very dry; February, May and November very wet. The fall of the last three months equalled that of the first nine months. There were five days on which more than an inch of R fell.

OSBORNE.—The R during the first nine months, with the exception of February and May, was considerably below the average, the months of January, March and July being exceptionally dry; the fall in the last named being the smallest since 1864. The fall in May and in the last three months of the year was considerably above the average. Total R 3·25 in. below the average of 41 years.

BOURNEMOUTH, KEMPSEY.—The features of the year were the abnormally mild January, with a notable absence of gales, deficiency of R and sunshine; in February, the heaviest snow storm for 17 years; two absolute, and four partial, droughts, and the almost unin-

terrupted mild weather and abnormal temp. of the last four months, especially December. Frosts in screen on 22 nights, on grass on 76 nights. R 4·22 in., or 14 per cent., under the average.

CHRISTCHURCH, MUDEFORD.—R 4·37 in. below the average of 20 years; the falls in January and July being the smallest for those months since the record began in 1869. Absolute drought prevailed for 17 days ending July 18th, and partial drought for 41 days (with ·26 in. of R) ending August 5th. Frost on the ground was registered in every month.

EMSWORTH, REDLANDS.—R 2·65 in. below the average of 15 years. A hot summer, with very few TSS; the longest rainless period being 14 days ending September 12th. Springs and soakage wells dried up earlier than usual, and there was great scarcity of water from July to October.

WICKHAM, THE CROFT.—Very nearly half the R fell in the last three months. Absolute drought prevailed for 18 days ending September 16th.

SOUTHAMPTON, RED LODGE.—R 2·96 in. less than the average of 28 years. More than half the year's R fell in October, November and December.

BISHOPS WALTHAM, HILL PLACE.—Extraordinarily dry during the first nine months, and many wells failed in September. Hay and corn were excellent, but roots suffered from drought. Mean temp. 51°·2, the highest recorded in 19 years.

HINTON AMPNER.—The first nine months (excepting May) all had considerably less than the average R, and there was absolute drought from August 29th to September 16th. On the other hand, there were unusually heavy falls on September 29th (1·39 in.) and November 23rd (2·05 in.), the latter being the heaviest on record. The water in the well here sank gradually at the rate of $2\frac{1}{2}$ inches a week from March 4th to September 30th, when there was only six inches left. It began to rise on October 21st, and had reached 7 feet on December 7th, rising more rapidly than it fell, and according to the R; thus, in 17 days after the R of November 23rd, it rose 30 inches.

HARTLEY WINTNEY.—R 1·77 in. below the average. Great drought from June 8th to October 16th. During the year there were seven periods of nine days without R, while on two days over an inch fell.

HECKFIELD, PARK CORNER.—With the exception of 1892, when 1·67 in. less fell, the least R in 28 years.

SUNNINGHILL, LYNWOOD.—R three or four inches below the average, and only 9·47 in. fell during the first six months. No very heavy falls. A very hot September, the temp. rising to 80° on nine days.

ASCOT, MANOR FARM.—In Ascot district some wells failed for the first time within memory, but the well here was never without water for more than six hours.

DENFORD PARK.—R 5·30 in. below the average of 10 years, and 1898 began with the springs abnormally low. A fair amount of R in April and May gave bountiful crops in bulk, and heat in June, July and August in quality, and they were able to stand the drought from July to September.

WINDSOR, ROYAL GARDENS.—The driest year on record, the fall being about eight inches below average. Jubilee year was the next driest, with 1·91 in. more R.

READING, EAST THORPE.—R 4·32 in., and rainy days 17, below the average of 10 years.

YATTENDON COURT.—A small R in the early months, followed by prolonged drought in summer and autumn, caused general failure of the wells in the chalk.

COOKHAM VICARAGE.—R ·62 in. less than that of 1870, hitherto the driest year recorded here.

FARRINGDON, THE ELMS.—R 7·37 in. less than the average of 20 years.

DIVISION III.—SOUTH MIDLAND COUNTIES.

SOUTHGATE, THE LAWNS.—Great deficiency of R. Grass burnt up, but trees little affected. Wet fogs in the autumn and early winter.

ST. ALBANS, THE GRANGE.—A very warm and exceptionally dry year, the mean temp. being 2° higher, the R 7·50 in., and the relative humidity 1 per cent., less than the average of 11 years. The wettest month (October) had nearly seven times as much R as the driest (September), and the two wettest (May and October together) had nearly five times as much as the two driest (January and September). Remarkably few TSS, to which the extremely small R in the summer is in great measure due.

GREAT GADDESDEN.—All the wells about here are being deepened and a large pool was quite dry, which had never happened before in the memory of man.

WELWYN, DANESBURY. The driest year since the record commenced in 1886.

DATCHWORTH RECTORY.—In 12 months ending September, only 14·85 in. of R fell. Absolute drought prevailed for 15 days ending January 28th, and for 18 days ending September 8th. Partial drought for 37 days (with ·36 in. of R) ending February 11th, and for 45 days (with ·39 in. of R) ending October 14th.

KNEBWORTH. — Remarkable for the (perhaps unprecedented) drought of the twelve months ending September, and for the extraordinary heat of that month. The drought did little harm to vegetation till September, such R as fell coming at the right times; but it lowered the springs very seriously.

HITCHIN, WRATTEN.—The mid June max. and min. temp. were lower than those of December. The highest temp. ever recorded here (91°) occurred in September. There was entire absence of TSS. The total R is 25 per cent. below the average.

HITCHIN, HIGH DOWN.—The absence of TSS is the most remarkable feature of the summer. The drought was more marked in its effects than any other remembered in a residence of 52 years; ponds, &c., dried up, that during the half century were never before dry, and the supply from the deep chalk diminished considerably.

ETON, TANGIER ISLAND.—A wonderfully dry year. Water has not been so low in the river for several years, and many springs failed.

SLOUGH, LANGLEY.—The driest year since observations commenced in 1872. Only three falls exceeding ·50 in.

SLOUGH, UPTON.—Though the R was much below the average, the dampness of the latter part of the year greatly repaired the ravages of the long drought, which starved and hardened the trees excessively.

HEDSOR.—The early part of the year was abnormally mild and dry, especially January. Severe cold and S occurred at the end of March, followed by an unseasonable April, with harsh winds and sharp night frosts. A wet May was followed by a remarkably dry summer, with occasional bursts of heat, especially in August and September. The autumn was mild, with average R. On the year there was a deficiency of 7·34 in. Absolute drought for 16 days ending March 18th, and partial drought for 43 days, with ·20 in. of R, ending September 29th.

CHALFONT ST. GILES, THE STONE.—R 7·38 in. below the average

of six years. Wells lower than in any year since first observed in 1883.

AMERSHAM, THE PLANTATION.—R 9·20 in. below the average of 10 years. Wells failed that were never dry before, both in the valley and on high ground. Partial drought for 28 days, with ·07 in. of R, from September 1st.

FILGRAVE RECTORY.—R 7·27 in. less than the average of 24 years.

HIGHMORE VICARAGE.—The drought of August and September occasioned great inconvenience and some suffering on these chalk hills, where there are neither streams nor surface springs. Owing to the dryness of the autumn of 1897, the wells did not rise early in 1898 as is usual. The drought practically lasted from the end of May till September 29th; the fall for 120 days being only 3·83 in., most of it falling in such slight showers that it evaporated. On September 29th came the first R of consequence for more than four months, it began at 6 p.m.. and 1·33 in. fell in 8 hours. During September all water had to be brought 4½ miles to this parish from Henley.

CULHAM VICARAGE.—Very dry up to October 10th. The small R in the first three months, following on a dry autumn, caused great scarcity of water, and deep wells were never known so short before. The last three months gave nearly half the R of the whole year. Total 5·50 in. below the average. The underground water was very low at the end of September, but ten inches of R in the last three months soaked the ground and the ditches were beginning to run continuously, so that the R of the early months of 1899 will go to replenish the water-bearing strata, and it will be a serious matter on the Oxfordshire hills and Berkshire downs if the deep wells are not filled.

PYRTON MANOR.—R about four inches below the average, owing chiefly to the deficiency of July, August and September, in which three months only 2·30 in. fell. In the first nine months 11·31 in. fell, and in the last three months 10·14 in. The number of rainy days is about the average.

WATERSTOCK.—Ponds were quite dry for a long time, but the river Thame was never really low, except for about three days in the early part of September, but it soon rose again.

OXFORD, ST. GILES. Singularly little frost; only on 33 days did the shade temp. fall to or below 32°; the next lowest year was 1893, with 50; the average for 11 years being 73. The number of rainy days is 10 below the average.

SWERFORD.—Mean temp. on January 21st 50°, and on June 15th 47°·5. The min. temp. in July was 40°, and on December 6th was 50°. At 10 p.m. on September 7th the temp. was 68°.

BANBURY, BODICOTE.—R 3·50 in. below the average and a small number of rainy days, but many heavy daily falls.

BLISWORTH, GRAFTON HOUSE.—An exceptionally mild and dry January, with no S and very little frost. Very strong N.E. gales with much S from March 23rd to 26th. May wet and cold, July fine and hot, August very hot, and September exceedingly hot and dry.

DAVENTRY, FAWSLEY.—The first four months were very mild, May, June and July were cool, and drought and great heat prevailed in September. The rest of the year was mild.

ALTHORP HOUSE.—January was remarkable for rainless weather from 6th to 31st, and there were many very fine days in February; fine also from March 2nd to the 13th. April was fine, May extremely wet, July fine and hot (with no R from 1st to the 18th), August very wet, September wonderfully dry.

BURTON LATIMER RECTORY.—Very droughty; water supply deficient. Marvellous harvest weather, September yielding four weeks of continuous hot and dry weather.

WELDON GRANGE.—Total R 6·63 in. less than the average, five months having less than an inch. May was cold and wet and September hot and dry. Absolute drought for 19 days ending July 20th, and for 28 days ending September 26th.

STAMFORD, ST. MARTINS.—For water works the year was cruel, January, February and March having yielded only 2·35 in. of R. No wonder the springs were nearly dry at the close.

MAXEY VICARAGE.—Only once was more than an inch registered, and on only four other days more than ·50 in. R 5·20 in., and rainy days 35, below the average of 15 years.

WOBURN, EXPERIMENTAL FARM.—Exceptionally dry, the total R being much below the average. Chiefly remarkable for the wet May and very dry September.

TRUMPINGTON, GILMERTON.—Remarkable for the very dry, mild winter, followed by a fine harvest and extraordinarily hot and dry September; only two showers of R falling in the month.

DIVISION IV.—EASTERN COUNTIES.

UPMINSTER HALL.—January was dull, still, and mild, with fogs, but little sunshine. On March 24th the only S of the year fell,

but did not lie long. The R in May gave a splendid crop of grass, and the weather in July was grand for haymaking. The second half of August and all September was dry and very hot, and the grass was much burnt; fortunately it was mild and rainy in October, and there was the greatest growth ever seen so late in the year.

BILLERICAY, BURGHSTEAD LODGE.—Total R about 73 per cent. of the average. Absolute drought prevailed for 19 days ending September 17th, for 18 days ending August 26th, and for 16 days ending July 17th. Partial drought for 52 days ending September 28th, with ·41 in. of R, and for 59 days ending October 5th, with ·56 in. of R.

SHENFIELD RECTORY.—A remarkable absence of T and L, the only exception being on April 9th, and no S except on February 24th and 25th. On 36 out of the 139 rainy days, all the R fell at night. In the 12 months ending September, only 14·96 in. of R fell.

CHELMSFORD, HIGH STREET.—R 5·73 in. less than the average, and the smallest in 31 years, excepting 1887, when ·28 in. less fell.

GREAT LEIGHS.—Many wells dry; springs low and diminishing throughout the year. Hay and wheat harvests good.

FINGRINGHOE.—Very deficient R, and excess of wind. R fairly frequent, except in January and September, but so exceedingly small in amount as a rule, that the drought in autumn was the worst remembered.

LEXDEN, HILL HOUSE.—March, April and May were cold, following a very mild winter; August and September very hot. Mild and open in autumn, and tender flowers little injured till November 22nd. Absolute drought for 16 days ending July 17th, and for 19 days ending September 17th. Partial drought for 46 days ending October 14th, with ·44 in. of R.

BRAINTREE, FENNES.—R about six inches below the average. Absolute drought for 16 days ending July 17th, for 16 days ending August 26th, and for 19 days ending September 17th. Partial drought for 46 days ending October 14th, with ·37 in. of R.

ERWARTON HALL. The R in the first six months of the year exceeded that of the last six months, which is very unusual.

SUDBURY, FRIARS STREET.—January was mild and dry, with very little R after 9th. Not much R fell in February; March was rather variable and cold at times; April fine at the commencement with cold winds towards the end; May wet, especially at first.

Variable weather and cold in June; July was fine on the whole, and August fairly fine but variable and cold at times; September exceptionally fine and hot, the shade temp. reaching 87° on 8th; October was fine at first, unsettled towards the end; November variable with thick fog at times, and December mild, with occasional frosts towards the end.

IPSWICH, BISHOPS HILL.—A fine dry year, and most productive both in hay and corn. R 4·21 in. less than the average. January, February, April, July, August, September and October, all had less than the average R. January, February, August and September, being very dry.

HAWKEDON RECTORY.—A mild winter, with absolute drought for 20 days in January. 1·97 in. of R on June 9th produced wonderful hay and straw; winter bean straw actually 7 to 8 ft. long. July produced fine warm weather, but cold at the end, and wet till August 10th, then very hot and dry, and abnormal heat in September. Dry weather continued till the middle of October, and mild weather to the end of the year. Less R than in 1893, yet a remarkable difference in produce.

DARSHAM, SIBTON.—The features of the R of 1898 were, the fact that May was the wettest month, and the drought extending from August 9th to October 10th. In these 64 days R fell on but 9, the total being ·75 in., and the greatest fall ·24 in. January was very dry, and February somewhat so.

WALSHAM-LE-WILLOWS.—September was extraordinarily warm and dry, but owing to abundant R in May and June drought was less felt, and hay and corn harvests were the best for many years.

GELDESTON [BECCLES].—R about three inches below the average. On May 20th and June 9th the fall exceeded an inch. September was the driest on record.

TIVETSHALL ST. MARGARET. The remarkable characteristics were: The small amount of S, the only falls being from February 3rd to 5th, and on March 24th and 25th. The dryness of the greater part of August, the whole of September, and the first 12 days of October. The absence of TSS; T being heard only on August 22nd.

YARMOUTH, MARKET PLACE.—R 5·78 in. below the average. The four years 1895—1898 show a total deficiency of 20·90 in., or very nearly one year's fall.

NORWICH, BRUNDALL.—R three or four inches deficient; rainy

days 28 below the average, and the fewest since 1884. Mean temp. 50°·5, more than 2° in excess, and the highest since 1884.

NORWICH, ESSEX STREET.—January was dry from 6th to 29th; February dry from 6th to 24th; March from 2nd to 21st; and April from 12th to 25th. May was showery; June was generally dry, but 1·42 in. of R fell on 9th; July was dry from 2nd to 26th, and less than ·50 in. of R fell from August 8th to 31st; September was very dry; October showery; November generally rainy and December showery. The last six months had about four inches less than the average, and the land-springs were weak and many wells dry. R for the year, two-and-a-half inches below the average of 50 years.

SPROWSTON, OAK LODGE.—R about 3·50 in. below the average. The driest September known in Norfolk for at any rate 60 years, except in 1865, when no R fell. January was the mildest in 60 years. R fell on only 162 days, the smallest number since observations began in 1873.

BYLAUGH PARK GARDENS.—R about 3·50 in. below the average. On three days more than an inch fell.

AYLSHAM, WOODGATE.—The great feature was the drought in September, when only ·09 in. of R fell in 35 days ending October 3rd. The temp. was remarkably high throughout the autumn.

HILLINGTON SCHOOL.—R 4·75 in. less than the average of 30 years. Many consecutive rainless days in April, May, July and September.

HOLT, FIELD DALLING.—Exceptionally little R. Almost all wells in the neighbourhood failing, and many dry. Root crops spoilt by drought in September. Much wind throughout.

BLAKENEY.—Springs and wells very low, and in many cases water had to be carted.

DIVISION V.—SOUTH WESTERN COUNTIES.

MAIDEN BRADLEY.—R 4·31 in. below the average. More than 1·00 in. fell on seven days.

WARMINSTER, RYE HILL.—Spring-like till February 21st, when cold weather set in, and there was less grass in the water-meadows in the middle of April than at the end of January. A wet May produced abundant grass, but there was no further growth till October. Weather for harvest was good, September being especially fine and warm. More than the average R in the last three months.

CONHOLT PARK.—Remarkably dry periods from January 1st to April 7th, when only 3·39 in. of R fell, and from June 28th to September 28th, when 1·69 in. fell. Wells were dry that have not been known to fail before. Absolute drought from July 14th to August 2nd, and from August 31st to September 16th. Partial drought from June 28th to August 3rd, 37 days with ·36 in. of R. Between September 29th and December 6th, there were five days with more than 1·00 in. of R.

BISHOPS CANNINGS.—R till the end of April 5·11 in., or 3·49 in. below the average; to the end of September 13·36 in., or 8·01 in. below the average; R for the year 5·39 in. below the average.

YATESBURY.—July and August were both the driest since observations commenced in 1889, and January was the warmest, and with one exception, the driest. A very warm December, the temp. being about 5°·5 above the average. A very small number of wet days and about 7·00 in. less than the average R.

WINTERBOURNE STEEPLETON.—More than half the total R, (16·21 in. out of 30·26 in.) fell subsequently to September 28th. The longest absolute drought was 17 days ending June 22nd. More than an inch of R fell on four days.

POOLE, PARKSTONE.—The R of the first nine months, 13·76 in. is 6·06 in. less than the average of 16 years. Absolute drought prevailed for 17 days ending July 18th, and for 17 days ending September 16th. Partial drought for 43 days ending February 17th with ·38 in. of R, for 30 days ending July 26th with ·24 in. of R, and for 41 days ending September 28th with ·30 in. of R.

BLOXWORTH RECTORY.—R 4·16 in. below the average of 14 years.

WIMBORNE MINSTER, CHALBURY.—Remarkably dry, but less so than 1870, 1887, and 1893. R 7·32 in. below the average of 33 years.

IVYBRIDGE, LANGHAM HILL.—January was singularly fine, dry, and mild. Some S fell early in March, but it was a dry month. April had about the average R, and May was rather wet. June, July, August and September, were almost the most beautiful summer months remembered. October, November and December, had as a whole, more than average R.

PLYMPTON, HEMERDON.—The small R in the first four months was remarkable, and there was a long drought in July and till August 18th. Springs got very low, though there was a fall of 7·19 in. in October.

TORQUAY, CARY GREEN.—R much below the average, and fell

mostly at night or in early morning. Drought from June 27th to July 17th, from August 30th to September 17th, and from December 12th to 26th.

TORQUAY, WATCOMBE PARK.—R 5·52 in. below the average of 13 years.

ASHBURTON, DRUID HOUSE.—R 10·27 in. less than the average of 21 years.

TAVISTOCK, WHITCHURCH.—A rather dry year with about average temp. The longest dry period was 16 days ending July 17th, and the longest wet period, 21 days ending November 2nd, with 7·98 in. of R. On 25 days out of 27, from October 7th to November 2nd, 9·52 in. fell. The first three months with July and September were dry, especially January and July; May, June, August, and the last three months were wet, especially October and December. The R of the first seven months was 17·14 in., and of the last three, 21·69 in. January and the last four months were warm, especially January and December; February, March, May, and June, were cold.

CHUDLEIGH, IDEFORD.—R ·50 in. below the average of 12 years.

EXMOUTH, BETWORTH.—In the long drought lasting from June 6th till Michaelmas, the R was just ·50 in. per month. In the last three months there was some excess.

KENTON, SOUTHTOWN HOUSE.—Curiously dry; R 5·95 in. less than the average.

POLAPIT TAMAR.—R 3·06 in. less than the average. May and October both had unusually large amounts, particularly the latter. Absolute drought prevailed from July 2nd to 21st inclusive.

ROUSDON OBSERVATORY.—A dry year. January was the driest since 1889, the R being 1·95 in. below the average. This deficiency increased rapidly, till at the end of September it was 7·46 in. The more abundant rainfall of the last three months only partially compensated for this, and the year closed with 5·45 in. less than the average of 15 years. July was the driest and November the wettest month of the year. The longest period without R was 16 days in July, and the greatest number of consecutive days of R was 11 in December. The heaviest day's record was 1·77 in. on November 23rd, and the fall exceeded one inch on four days. Three consecutive days' R, October 16th to 18th, made up a total of 3·03 in, and three consecutive days, November 23rd, 24th, and 25th, produced 3·47 in. of R.

HONITON, IVEDON.—R 5·12 in., and rainy days 19, below the average of four years.

CULLOMPTON.—R four inches below the average.

INSTOW.—Exceptionally dry till the remarkable fall of 3·21 in. on October 17th. No severe frosts, and no heavy gales. The temp. in the early winter was unusually high. More TSS in the summer than usual.

WOOLACOMBE.—A moderately dry spring and summer. Weather at haymaking and harvest times very favourable. The latter part of the year was wet. The heaviest R was in October, and the lightest in July.

PARRACOMBE.—Number of rainy days far below the average. Total R, from January to September, below the average; from October to December, above the average. R for the year slightly below the average. October again the wettest month.

LYNMOUTH, ROCK HOUSE.—January was mild with little sunshine: February had more sun than January, and March was the coldest month of the year. April was mild and showery, and May very cold and wet. June was warm, with a good deal of T. July, August, and September, were very warm. October was wet and stormy, and there was much T and L in November, especially towards the end. December was wet and mild.

PENZANCE, MORRABS.—R about 8·00 in. below the average.

REDRUTH, TREVINCE.—R 6·97 in. below the average of 11 years, and the least in any year except 1893, when ·74 in. less fell.

PAR STATION, PENELLICK.—Unusually dry, and most favourable from an agricultural point of view.

LISKEARD, DEAN TERRACE.—A very dry summer; R 7·50 in. below the average of 34 years.

LAUNCESTON, ALTARNON.—January to March the driest on record. Cold, snowy, and frosty, from February 18th to April 6th, giving vegetation a salutary check. From April 28th to May 21st, and in the first and fourth weeks of June, much needed R fell. July forced on a grand corn harvest, being one of the driest months on record. August brought refreshing storms; and September, the hottest month, was showery in the third and fourth weeks. October was the wettest on record since 1864. November and December had about average R. The year had moderate temp. throughout, but September, October, November, and December, were all warmer

than usual, the max. temp. on December 30th being 60°, the highest on record for the month.

BUDE.—R 1·33 in. below the average of 10 years.

STRATTON, TRELANA, POUGHILL.—Springs were good throughout, and there was no scarcity of water in the village well. R 2·04 in. below the average.

YEOVIL, WEST COKER.—A remarkably fine and dry year, with a hot summer. R more than two inches less than the average of 10 years. Good hay and corn harvests. Winter very mild except for a heavy S storm on February 21st.

WELLINGTON, THE AVENUE.—Great fluctuations of R. May was the wettest for many years; July the driest, and January the mildest. October and November had heavy R, and the last three months were generally exceedingly moist and mild. Total R about 2·50 in. below the normal, notwithstanding the great drought at certain periods. Excessive heat in August and September.

NORTH CADBURY RECTORY.—The chief feature of the year was the extraordinary heat in September. Notable also was the mildness of January, and of the last quarter, with practically no S. Only one absolute drought, July 2nd to 17th inclusive. No partial drought but many approaches to one.

TAUNTON, ASH PRIORS.—On five days the R exceeded 1·00 in. and on two days 2·00 in. The longest spell of drought was from July 1st to 22nd, with ·03 in. of R, and from June 27th to August 3rd, only ·10 in. of R fell.

COTHELSTON HOUSE.—One of the driest years recorded in the last 20. R about 6·50 in. below the average, but there were many heavy falls in 24 hours, six above 1·00 in., and one above 2·00 in..

WINSFORD.—R 5·29 in. below the average of eight years. In the three days, October 17th to 19th, 3·29 in. fell, and from November 24th to 26th, 3·93 in.

BRIDGWATER NURSERIES.—R 1·48 in. below the average of 11 years. Two such heavy falls as those on August 6th, 2·05 in., of which 1·43 in. fell in one storm of short duration, and on November 23rd, when 2·30 in. fell, are unprecedented in one year; besides which 3·26 in. fell in three days, October 16th to 18th. Absolute drought from July 2nd to 21st inclusive, and partial drought for 37 days with ·35 in. of R from June 27th to August 2nd.

FROME, ORCHARDLEIGH.—Very mild in January; dry in March; a wet May, producing a heavy hay-crop in June. Very warm in

September, with temp. above 80° on seven days. Dull in November. A remarkably good season for crops of all kinds.

STON EASTON.—R 6·95 in. below the average of 30 years.

WESTON-SUPER-MARE, BEAUFORT ROAD.—The drought in June and July was much felt. The heavy R in October did something towards making up the deficiency, but at the end of the year the total was 3·82 in. below the average.

WRINGTON, WEST HAY.—R 3·43 in. below the average of 11 years.

LONG ASHTON ESTATE OFFICE.—R 7·22 in. below the average of 25 years, 4·63 in. of this deficiency arising in the first half of the year. Only three months, May, October, and December, show falls in excess of the average, the remaining nine all being deficient. Absolute drought for 19 days ending July 20th.

CLEVEDON, WATER WORKS.—R 7·38 in. below the average of 29 years.

FAILAND HOUSE [BRISTOL].—Want of water was felt in the late summer and autumn.

DIVISION VI.—WEST MIDLAND COUNTIES.

CLIFTON, PEMBROKE ROAD.—R 5·30 in. below the average of 42 years. Rainy days 15 below the average. A comparison of 1897 and 1898 with the average of each quarter is striking—

	Average.	1897.	1898.
1st Quarter	7·86 in.	9·69 in.	3·78 in.
2nd ,, ...	6·98 ,, ...	8·55 ,, ...	7·00 ,,
3rd ,, ...	10·23 ,, ...	12·02 ,, ...	5·42 ,,
4th ,, ...	9·93 ,, ...	7·59 ,, ...	13·50 ,,

The amount for the first quarter of 1898 is the lowest since 1858, when only 3·34 in. fell. January, February, March, June, July, August and September were all deficient, July being the driest for 42 years, except 1863, when ·19 in. less fell. The total from June to September (6·79 in.) is the least for 42 years, except 1870, with 5·80 in.

BRISTOL, FISHPONDS.—Wonderfully dry and warm. January very deficient in R for the third year in succession. Absolute drought from July 2nd to 21st, and from August 31st to September 16th inclusive, these periods extending as partial droughts to August 2nd and to September 26th respectively. The temp. was above the average each month except, March, May and June, December being 7° in excess, and as warm as an ordinary April.

WICKWAR RECTORY.—R about 2·00 in. below the average. From October 16th to 18th inclusive, 4·03 in. fell, the greatest on record.

STROUD, STANLEY PARK.—Owing to the August R this district suffered less from drought than many parts of the country. Partial drought for 31 days, with ·16 in. of R, ending September 28th.

HATHEROP RECTORY.—R about 6·50 in. below the average of 28 years. The R during the three hot months, July to September, was the smallest recorded here.

GLOUCESTER, WITCOMBE RES.—From January to September was the driest nine months' period on record.

STOW-ON THE-WOLD, ODDINGTON.—The wettest May recorded in 23 years. On the other hand, January, March, June, July and September had considerably less than the average. January and September were each, with one exception, the driest on record.

TEWKESBURY, BECKFORD.—Partial drought for 33 days, with ·28 in. of R, from August 27th to September 28th.

ROSS, THE GRAIG.—The warmest year recorded from 1859–98. There was absolute drought for 24 days ending January 31st, for 16 days ending July 17th, and for 16 days ending September 15th. Partial drought for 34 days (R ·29 in.) ending February 2nd and for 31 days (R ·15 in.) ending September 28th. Drought would have been much more felt but for 4·45 in. of R in 26 days ending May 23rd, and for 2·44 in. in 19 days ending August 31st. The R of the first four months was less than one-third of the average, and the smallest in any corresponding period since 1818, while June and July taken together were the driest since 1868.

BRYNGWYN.—Little R, especially during the summer. Temp. high during the summer and autumn. Few storms.

LEDBURY, PUTLEY COURT.—One of the most productive years remembered. Wells still empty at the close.

HEREFORD, BURGHILL COURT.—Partial drought for 30 days ending February 3rd, with ·25 in. of R, and for 32 days ending September 28th, with ·28 in. of R. Absolute drought for 16 days ending July 17th and for 18 days ending September 16th.

WEOBLEY, DILWYN.—Absolute drought from July 2nd to 17th inclusive, and partial drought from January 3rd to February 2nd, with ·30 in. of R in 31 days.

PEMBRIDGE, MARSTON.—Dry on the whole ; five months had less than 1·00 in. of R, but October was very wet. Sharp frosts from

September 23rd to 25th. A fruitful year, with good weather for both harvests.

LUDLOW, ASHFORD.—The drought made the water supply very short, several shallow wells were dry for weeks, and some of the deeper ones were affected. Frost on September 23rd and 24th cut French beans, &c., but the nights were extremely mild all through October.

LUDLOW, ASHFORD HOUSE.—R about 3·75 in. below the average of seven years. April, May, October and December produced 13·69 in. out of a total of 24·76 in. Partial drought for 28 days, with ·23 in. of R, from January 6th.

PONTESBURY, SOMERVILLE.—January, February and March were for the most part mild, with some slight frosts and stormy winds. April and May were fine and genial, with sufficient R for the crops. June, July, August and September were very fine and dry, the hottest weather occurring in September. Copious R fell in October, causing the root-crops to grow amazingly. November and December were mild, with light frosts and great storms of wind.

WOLVERHAMPTON, TETTENHALL.—The driest year recorded in 25 years, the R being 73 per cent. of the average for that period. No year has had an average fall since 1886.

BREDONS NORTON.—The heavy R in May caused the Avon to overflow, which did much damage to the grass that was set up for hay. Pastures were bare and brown in September, water was short, and springs were very low.

UPTON-ON-SEVERN, THE EADES.—The heat of early September was very remarkable, and the mildness of autumn and early winter was exceptional. Dahlias and nasturtiums were in bloom in December.

GREAT MALVERN, MADRESFIELD RECTORY.—R 5·36 in. less than the average of the 18 years, 1880–97.

WORCESTER, BELMONT ROAD.—High temp. generally, and especially in September. Unusually dry in July, August and September. Fogs were prevalent in October and November. In December the temp. was much above the average, and the whole year was free from sharp frosts.

REDDITCH, PROSPECT HILL.—The least annual fall since 1893, and R 3·99 in. less than the last decennial mean.

KIDDERMINSTER, WOODFIELD.—R 4·38 in. below the average of 11 years, and the least in that period.

ALCESTER, RAGLEY GARDENS.—Very dry, and drought would have proved disastrous to all green crops but for the R in May and August.

LEAMINGTON, THE PARADE.—Unusually warm, mean temp. 2° above the average. Absolute droughts from July 2nd to 17th and from August 30th to September 18th inclusive.

LEAMINGTON, WEST HILL.—R the least recorded in 10 years.

KENILWORTH, THE SPRING.—R 3·15 in. less than the average of 16 years.

COVENTRY, PRIORY ROW.—Dry and very fine, with a good harvest and excellent crops of hay and grain, abundance of sunshine, but no excessive heat. A long summer, and the trees held their leaves till the middle of November.

BEDWORTH CEMETERY.—R the least since observations commenced in 1889. Mild weather till November 22nd, when a sudden change occurred, accompanied by cold wind and a heavy fall of S.

DIVISION VII.—NORTH MIDLAND COUNTIES.

UPPINGHAM, WEST DEYNE.—R 5·40 in., and rainy days 30, less than the average of 25 years. Partial drought prevailed for 30 days ending February 4th, and for 47 days ending October 15th; absolute drought for 17 days ending July 18th and for 28 days ending September 26th. Mean temp. 49°·2, or 3°·6 above the average of twelve years.

LEADENHAM RECTORY.—Unusually dry, the R being specially deficient in February, July and September. January was very warm, but the spring was cold, with frosts in May and June, and there was no summer weather until the end of the latter month.

SLEAFORD, BLOXHOLM.—The winter was very mild, the drought and heat were extreme in the late summer, and the total R is very small.

HORNCASTLE, MININGSBY.—The reservoir overflowed on 10 days in January and 30 days in May. Storage was drawn on from June 1st to November 25th. The flow from the gathering ground was very small during the year, the amount in store at the end being 9,500,000 gallons less than at the beginning.

SPILSBY.—R 7·73 in. less than the average; the greatest deficiencies being 2·32 in. in July, 3·35 in. in September and 1·03 in. in December, while there was an excess of 1·25 in. in August.

LOUTH, GOSPELGATE.—R 4·43 in. below, temp. 1°·7 above, average.

LOUTH, WESTGATE.—R 4·76 in. less than the average of 25 years.

BURTON-UPON-STATHER.—In the first seven months only 8·64 in. of R fell, or 5·36 in. less than the average.

NORMANTON-ON-THE-WOLDS.—R 3·09 in. less than the average of eight years. Absolute drought for 16 days ending July 17th and for 20 days ending September 18th. Partial drought for 30 days, with ·29 in. of R, ending February 4th, and for 30 days, with ·06 in. of R, ending September 28th.

STRELLEY HALL.—The driest year since 1893, the R being about 6·00 in. below the average. No year, except 1893, has been nearly so warm since 1879, when the record began.

MANSFIELD.—R 4·49 in. less than the average.

HODSOCK PRIORY.—Remarkably warm and at times extremely dry. The mean temp. (49°·8) is higher than in any of the previous 22 years; there was no frost of any consequence, the min. reading being 20°·2 in March, and the only months at all cold were March, May, June and July, and in none of these was the mean temp. as much as 1° below the average, whereas in all the other eight months it was more than that amount above the average, and in January and December the excess was very large; the hottest weather occurred in September. While there was a general deficiency of R, there were more than the usual number of heavy falls, no less than four exceeding an inch; these minimised the drought, and were of enormous benefit to vegetation. Sunshine was rather deficient. No damage of consequence by gales. Garden flowers lasted late, not being cut by frost until November 22nd.

CHELLASTON.—January and the first part of February were mild and rather dry, it was then very cold and dry till April. May was cold and wet, June and July mostly dry, with no very high temp.; August variable, with much T; September remarkably dry and hot. From the middle of October to the end of the year R was abundant, temp. was high, and there were many gales.

HAZELWOOD, CHEVIN.—R 3·03 in. less than the average.

CODNOR, CROSS HILL.—R 4·50 in. less than the average of nine years, and the least in any year since the record began in 1889.

DIVISION VIII.—NORTH WESTERN COUNTIES.

ECCLESTON RECTORY.—R 2·27 in. below the average of 16 years.

CHRISTLETON HALL.—The winter was mild, open and dry; spring

was rather cold, with cutting winds, but May had a plentiful R, which was much wanted. The summer was fine as a whole, July and September being very fine and dry, though August was rainy, with the greatest total in any month of the year. Autumn was exceptionally mild, many hardy flowers blooming at Christmas.

MACCLESFIELD, THE PARK.—R 4·04 in. below the average. July was very dry, with the least R since 1868, and September had the smallest fall, with one exception, since 1865.

ASTLE HALL.—Very mild throughout, with no frost to speak of. R ·83 in. more than the average of 12 years. On three days more than an inch of R fell.

HINDERTON.—R 16 per cent. less than the average of 29 years. The sixth year in succession showing a deficit.

WILMSLOW, PARKSYDE.—Singularly little R in the last quarter of each moon till the end of November; on an average less than two days and only about ·33 in., while the true average would be about ·50 in.

AIGBURTH, KELTON.—R 7·12 in. below the average of 23 years, and during that time only 1887 and 1893 had less. July, often the wettest month, was this year the driest, and the greatest amount fell in August; the heaviest daily fall (·96 in.) occurring on the 3rd.

HEATON MERSEY.—Dry on the whole, but a phenomenally wet August, R 6·26 in., and two days with falls exceeding an inch.

MANCHESTER, ALEXANDRA PARK.—The early part of the year was favourable, August was extremely wet, but September very dry and good for harvest. R of the year below the average.

SOUTHPORT, HESKETH PARK.—Exceptionally warm and decidedly dry, but somewhat sunless. Remarkably mild during January and December, and very warm in September and October. Mean daily range of temp. lower than in any other year since the record began in 1871. An excess of bright sunshine in February, but material deficiencies in January, April, May, June, August and October. Excessively dry in July, and R decidedly below the average in March and September; wet in May and August. A remarkable prevalence of W. winds. Mean temp. 2°·3 above average. Duration of bright sunshine 67 hours below average. R 5·39 in. below average.

HASLINGDEN VICARAGE.—R 3·57 in. below the average of six years. Drought was not seriously felt, as the longest rainless period was 11 days in June, and the two driest months, July and September, had 1·24 in. and 1·38 in. of R respectively.

OVER DARWEN, ST. JAMES'.—Unusually dry, the total being 11 per cent. less than the average. The driest months were July and September, and the wettest August, December and October, the three last-named yielding nearly 40 per cent. of the total.

ST. MICHAELS-ON-WYRE.—R about 5·00 in. below the average. March, June, July and September had much less than usual.

DOWNHAM HALL.—Total R some three inches below the average, but pastures did not suffer as in the S. of England.

CHATBURN, MIDDLEWOOD.—R only ·16 in. less than the average of ten years.

GARSTANG, FORTON.—Though R fell on 202 days, the total is 4·71 in. below the average. Spring was early and was unusually fine, and genial weather lasted into summer. July was lovely, with R on only seven days, but August was the wettest month for six years. Fine weather recommenced in September, and continued with little break to the middle of November. The temp. was very equable, as there were almost no days of excessive heat in summer, and only a few cold days in winter.

ARKHOLME, STORRS HALL.—Dry from March to September inclusive, except August, when there were some heavy rains. The weather broke about the middle of October, and the remainder of the year was wet. A warm winter, sunny but cold spring, and fine summer. November and December dark and gloomy. Total R about 2·50 in. above the average.

GRANGE, BELMONT.—Temp. mostly above the average, but duration of sunshine only 1,576 hours, or 111 hours below the average of five years. March and July were very dry.

CARTMEL, BROUGHTON HALL.—R about 2·00 in. above average. Notable for a very dry July and wet August, the remaining months normal. Falls exceeding an inch occurred on seven days.

SEATHWAITE VICARAGE.—A rainy and generally coldish year, with fickle temp. after the disappointing promise of a very early spring. To be remembered locally for one of the best hay-crops and heaviest floods (on November 1st) in living memory.

DIVISION IX.—YORKSHIRE.

THRYBERGH RESERVOIR.—The third year in succession with R below the average.

UPPER MIDHOPE.—The total R from August 31st to October

13th, 44 days, was only ·95 in., ·57 in. of which fell on September 29th. From October 14th to November 5th, 23 days, 6·46 in. fell, and from November 22nd to December 31st, 40 days, 9·10 in. fell.

WATH-ON-DEARNE.—R below the average. A mild year, last frost on May 16th, first frost and S on November 22nd. Wettest month October, driest September; longest rainless period 16 days ending January 21st. S fell on 12 days, but never lay. Duration of sunshine 1,480 hours; 89 sunless days. TSS on 11 days; gales on 5; fog on 16.

MELTHAM, HAREWOOD LODGE.—R almost exactly the average, and evenly distributed, except that July was dry, and September unusually so. December was rather wet. The year was almost as warm as 1893, and with that exception, the warmest of the last 20, owing chiefly to the high minima and absence of frost. January and October were warmer than any corresponding month, and December exceeded any other by no less than three degrees. TSS, with the exception of that of August 21st, were insignificant in number and intensity.

WAKEFIELD, WALTON HALL.—R 5·97 in. below the average, and the smallest in 23 years the next driest year being 1887, when 1·06 in. more fell.

HUDDERSFIELD, DALTON.—The winter was mild; the spring late and cold; splendid weather prevailed from September 1st to October 14th. The remainder of the year was wet.

WAKEFIELD, STANLEY GRANGE.—The driest year since 1887, the R being 4·21 in. below the average of 10 years. The first three months were very dry and mild; the next two showery. July was bright and dry; August wet. Partial drought for 47 days, with ·44 in. of R ending on October 14th. December was unsettled, and phenomenally warm. The mean temp. of the year (49°·2) is the highest since 1884.

SOUTHOWRAM.—R 3·60 in. less than the average of eight years. Very dry to the end of July. A very wet autumn (except September, when only ·43 in. fell), October being the wettest month, with 4·28 in.

FALLING ROYD.—January very warm; February and March average months; April wet; May cold and wet; June also cold and wet, excepting 11 days of absolute drought ending on 17th. July dry, cool, and very pleasant; August warm and dry in the middle;

September, and the first half of October, fine and dry; the remainder of the year wet, December being very warm and very wet.

LEEDS, ALLERTON HILL.—R 4·81 in. less than the average of 10 years.

LEEDS, HORSFORTH.—A very dry year. In September ·60 in. fell on one day out of a total of ·65 in., and in July only ·82 in. fell. December was remarkable for very high westerly winds. S fell on seven days.

ILKLEY, EATON ROAD.—A fine year, with R rather below the average. January and December remarkably mild, mean temp. 43°·5 and 43°·4 respectively. September dry and warm.

SLAIDBURN, WHITEHOLME.—R 2·42 in. less than the average of 10 years.

YORK, MOUNT VILLAS.—R 1·50 in. above the average. On July 22nd, 1·69 in. of R fell, and on November 23rd, S yielding 1·01 in., both very exceptional.

SEDBERGH, BRIG FLATTS.—R above the average, but less than in 1897. R fell in spring just when wanted, causing a fruitful season, and a fine July gave a good hay harvest. Very heavy R in August, and an almost unprecedented number of rainy days in December.

BEVERLEY, REGISTER HOUSE.—Little R in January, July, and September. Heavy R from October 15th to 20th, 3·35 in. in the six days.

CHERRY BURTON.—Long intervals without R occurred, notably 22 days in January, and 16 days in July. December remarkably mild; roses in bloom at the close.

WETWANG VICARAGE.—Absolute drought for 18 days ending January 28th, and for 16 days ending July 21st. Partial drought for 41 days, with ·24 in. of R, ending October 10th.

THIXENDALE.—R below the average. Absolute drought for 21 days in January ending 28th, and for 16 days in July ending 21st. May was cold and dull; June cold almost throughout. Very dry with great heat in September. Mild and open weather in November and December.

THIRSK, BALDERSBY.—R 3·00 in. less than the average of 10 years.

THIRSK, SOWERBY.—R 5·95 in. less than the average of 19 years, but an inch more than in 1887.

AYSGARTH VICARAGE.—R 2·50 in. below the average. A very favourable year for farmers. The mean temp. in January was 7°·5

and in December 6°·6 above the average. Mean relative humidity in September 83, though scarcely any R fell till 29th; in December also the humidity was 82, though 5·60 in. of R fell.

BEDALE, BURNESTON.—The driest year of the eleven recorded and about 3·00 in. less than the average R.

RICHMOND.—Comparatively dry, and noteworthy from the fact that there was no day with a fall of an inch of R.

INGLEBY MANOR.—R 2·28 in. below the average of 10 years. January and September were the driest recorded. On two days March 26th and November 23rd, the fall exceeded an inch. A lovely autumn.

MULGRAVE CASTLE.—Very variable both as regards R and temp. The early summer was very cold and the autumn very dry; fruit could not swell for want of moisture.

HUTTON HALL.—R 4·60 in. less than the average of 20 years.

DIVISION X.—NORTHERN COUNTIES.

DARLINGTON, HURWORTH GRANGE.—Partial drought from September 1st to October 10th; 40 days with only ·24 in. of R.

DARLINGTON, CLEVELAND PARADE.—Again a dry year; January, July and September each having less than an inch of R, while the max. fall on any day was ·66 in.

DARLINGTON, PUBLIC PARK.—A beautiful, bright and warm year. A fair supply of R, but rather unevenly distributed.

BISHOP AUCKLAND, THE CASTLE.—Very droughty; the summer very hot, and springs and rivers very low, September in particular was a month of continued heat and drought. October was very wet, but made little impression, as the ground was parched.

EASTGATE, ALL SAINTS' VICARAGE.—Remarkable for the extraordinary amount of wind.

SEAHAM VICARAGE.—A light R, especially in summer, only 17·13 in. falling in the five months May to September. Southerly and westerly winds prevailed on 225 days. A favourable season for farmers. Three bad gales in March and November.

SUNDERLAND, WEST HENDON HOUSE.—The R of 1898 was 4·61 in. below the arithmetical average, and 4·35 in. below the geometrical mean, for the 30 years 1860–89. November was the wettest month, with a fall of 3·70 in., and September was the driest, with ·44 in. The greatest fall on any day was ·93 in. on October

17th. There were two periods of partial drought, viz. : January 7th to February 4th, 29 days, R ·29 in. ; and August 28th to September 28th, 32 days, R ·25 in. Some R, S or H fell on 246 days, but a measurable quantity only on 175. S fell on 24 days, the max. depth being 2½ inches on November 23rd. The duration of time that rain fell was in excess of the average, the decided deficiency in July and September being more than counterbalanced by excesses in June and November, and especially October. There was a noticeable excess of E., S.E. and W. winds, and deficiency of N.E. and S. ; the most striking monthly excesses being of E. in October and of S.W. in December, and the most marked defect that of S.W. in July. The E. was by far the wettest wind in proportion to the time it blew, and the W., as usual, the driest. The number of days on which the alternation of sea and land breezes took place was much above the average, especially in September, July and October ; there was not a single instance in December. In each of the two former months the alternation took place on no fewer than 13 days out of the 29 of observation. The wind force was slightly above the average, the marked excesses in August, December and July being almost counterbalanced by deficiencies in November and September. The cloud was above the average, there being excesses in each month. The fog was about the average.

NEWCASTLE, TOWN MOOR.—Rainy days the fewest since observations commenced in 1868.

MORPETH, COCKLE PARK.—Extreme dryness during the summer, brooks and springs being dried up which, in the memory of the oldest inhabitants, had never failed before.

ROTHLEY CRAG.—The large R in October, November and December (amounting to 15·73 in.) brought up the total for the year to about the average.

PAWSTON [COLDSTREAM].—The R for the nine months January to September was only 14·08 in., the smallest fall on record, no other being under 18 inches. The harvest was unusually favourable as to weather, quality and bulk.

MILLOM, LEYFIELD.—R ·05 in. below the average of eight years. The drought did not have much effect, the longest rainless period being 10 days. August was very wet.

KESWICK, SHU-LE-CROW.—No S fell in January, which was a nearly sunless month, and but little fell in spring ; none in autumn till November 22nd, which is exceptionally late for the first fall on

the fells. July was unusually dry, September and the early part of October mostly fine and mild.

COCKERMOUTH, ULLOCK.—Although 1898 was a wet year, it was favourable for agriculture, the fine weather coming just when it was needed for harvest. The number of rainy days is the largest in any year since the record commenced.

KESWICK, MIREHOUSE.—Spring and early summer cold and sunless. August, September and October very fine and unusually warm. A rare autumn.

WIGTON, BROOKFIELD.—R 1·51 in. above the average of 27 years.

CARLISLE CEMETERY.—Although the R was the least for five years, the number of rainy days was the greatest.

CARLISLE, NEWBY GRANGE.—R well distributed, coming at the times when most wanted. Very warm in spring and winter. Little T except in August. Heavy gales in December, but otherwise the winds were generally moderate, except on February 15th and 16th and March 24th.

BRAMPTON, DENTON HOUSE.—R 6·20 in. above the average of 10 years, and the greatest in any year since observations began in 1885, excepting 1886, when 4·25 in. more fell. Notwithstanding the great R, the year was good for farming. Hay crops great and grass plentiful.

KENDAL, HAWESMEAD.—R 1·66 in. above the average. Remarkable for several heavy falls, notably, 4·28 in. on August 4th and 5th and 3·32 in. on November 1st and 2nd, the latter occasioning the highest flood on record in the district.

KENDAL, ELLERGREEN.—A good season following a very mild winter; a large R, yet a good summer and good crops well harvested, the R coming in spells, with bright and fine weather between. One of the greatest floods for more than 50 years occurred in November.

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.

LLANFRECHFA GRANGE.—A very mild winter and hardly any S. No warm weather till the end of June, but fine and hot later. November very foggy, and severe S.W. gales in the last week of December. R below the average.

TREDUNNOCK.—R about 4·00 in. below the average.

USK, BRYNDERWEN.—In the early part of the year and throughout the summer the Usk was very low and in anything but a sanitary condition, and as a rule much below zero on the gauge at

Pant-y-goitre bridge. The R in April caused a rise of only 3 ft. 6 ins. on 12th, and that of May of 2 ft. 6 in. on 6th, quite insufficient to scour the bed of the river. The heavy R of mid October caused rises of 6 ft. and 7 ft. respectively within ten days. On December 27th the river rose to 15 ft.

ABERGAVENNY, DYNE HO.—After the drought of the first three months there was a fair distribution of R, though July was dry.

FONMON CASTLE.—R rather above the averge of 14 years. In the first nine months 19·68 in. fell, and in the last three 20·46 in. July was the driest month, in fact, the driest recorded, and October was, as usual, the wettest, nearly 4·00 in. falling in three days.

SWANSEA, UPLANDS CRESCENT.—The first seven months showed a large deficiency of R, but August, October, November, and December, yielded 23·64 in. out of the total of 42·23 in., which is within 2·00 in. of the average. On four days the fall exceeded 1·00 in., and on three days 1·50 in., an unusually large number. Practically no S. Several heavy TSS.

MORRISTON, GLANRAVON.—R 2·96 in. less than the average of seven years.

NEATH, FAIRY LAND.—Great deficiency of R during the first seven months, but the total for the year is about the average.

DOWLAIS, GWERNLLWYN.—R ·73 in. below the average of 12 years. The total from January 1st to the end of each month showed a deficiency, the most noteworthy being three months, January to March, deficiency 3·10 in.; seven months, January to July, 3·29 in.; eight months to end of August, 3·45 in.; nine months to end of September, 5·29 in.; from this month the fall was above the average and the cumulative deficiency diminished. The temp. fell below 32° in every month but August.

HAVERFORDWEST.—One of the most magnificent of the 50 years recorded here. The winter was unprecedentedly fine and warm though damp. The Precelly range was snow-capped in January, February, and March. Frost persisted into the spring months, which were cold but dry, excepting May, which was stormy and wet. June was cold, pleasant, and fine. July was, perhaps, the finest month since August, 1880, with absolute drought for 20 days, August was warm and bright, with R in excess, mainly due to two grand TSS. September was a record month of sunshine, with high uniform temp. to the 29th. From that date, excepting the first

12 days of October, R, high temp., and gales prevailed to the end of the year.

ST. DAVIDS.—In the first eight months one half of the total R was recorded. S fell only in February, March, and November. July was the driest month, and November the wettest, but September was the finest. The end of the year was very mild, and in December apple trees and roses bloomed in the open.

CRICKHOWELL, GWERNVALE.—Great deficiency of R in the first quarter, January being the driest month of that name remembered, only ·11 in. fell in the 26 days ending February 2nd. Spring was unusually cold and late, and summer hot and dry.

BUILTH, TAN-Y-BERLLAN.—Practically no S, the only fall that could be measured being in March. Rather severe TSS towards the end of May. Scarcity of water in summer, owing to the small R of the early part of the year.

POOL QUAY VICARAGE.—R 1·18 in. below the average of 10 years, though there were four days on which the fall exceeded an inch. Mean temp. 49°·1, or 1°·6 above the average.

NANTLLYS.—R 3·02 in. less than the average of 10 years. The R of May (4·38 in.), was salvation to farmers, and the grass was green throughout the year. Absolute drought for 14 days ending July 17th; no partial drought.

PRESTATYN, EDLESTONE HO.—R slightly under the average, and very unequally distributed in the months.

ROSSET, TREVALYN HALL.—R 5·16 in. below the average, and the least since 1893. July was the driest month, and January, March, and September, all had much less than the average. The max. temp. occurred in September, a very unusual circumstance. The winter was generally mild with scarcely any S.

DENBIGH, GARN.—R 2·80 in. below the average of 10 years.

COLWYN BAY, NANT-Y-GLYN.—R ·61 in. below the average of 20 years.

COLWYN BAY, INGLESIDE.—An unsettled year on the whole, with the exception of July, which was very fine, November and December were very mild.

TALARVOR.—Exceptionally mild, with large amounts of R in May, August, and October.

DOUGLAS, WOODVILLE.—Remarkable for the warmest January and December on record, with an almost rainless July, succeeded by a wet August. During the first seven months only 14·88 in. of R fell,

and in the latter five 22·16 in., the total being considerably below the average.

ST. MARTINS, LES BLANCHES.—January was very dry, more than half the R falling on the 1st; May on the other hand was very wet, and the wettest month of the year. Absolute drought prevailed for 15 days ending July 18th. On four days the R exceeded an inch.

SCOTLAND.

DIVISION XII.—SOUTHERN COUNTIES.

GALLOWAY HOUSE.—The year throughout was favourable to vegetation, and R was not deficient, except for a short time in July.

DALBEATTIE, LITTLE RICHORN.—R 8·71 in. less than in 1897, and though July was very dry, just enough R fell to keep the crops growing.

DUMFRIES, IVY BANK.—R fully 2·00 in. less than the average of 12 years; the most abnormal feature being the exceedingly small fall of July, only ·23 in., or 3·69 in. less than the average.

MONIAIVE, MAXWELTON HOUSE.—The R for the first six months was 18·14 in., the ten years' average being 18·18 in.; the fall during those months ranged from 12·67 in. in 1895, to 28·05 in. in 1894.

HAWICK, BRANXHOLME.—Remarkable for the great drought which lasted from June until well into September. Water supplies all short. The latter months very mild and open.

LILLIESLEAF, RIDDELL.—R 1·83 in. less than the average. All the summer months were dry, but April had an excess of 1·80 in., while the last three months had a total excess of 2·84 in. The best year remembered for agriculture, but the springs were dry unusually long.

MELROSE ASYLUM.—R 3·19 in. less than the average of 16 years, 13 of which were wetter and only three drier; the number of rainy days is the smallest in any year, and 30 less than the average.

DIVISION XIII.—SOUTH EASTERN COUNTIES.

WEST FOULDEN.—The smallest R in any year since the record began in 1872. The max. temp. in September was the highest for

that month in the same period. The drought did not affect corn, but roots were deficient.

RAWBURN.—Remarkable for the small R of the first nine months, and for the abnormally high temp. in September.

EDINBURGH, BLACKET PLACE.—The mean temp. (49°·2) is 2°·4 above the average of 135 years; the only warmer years being 1779 and 1846. Only 26 frosty days, the average being 65.

NETHER PARKLEY.—Up to the end of July the year was exceptionally dry, the fall being only 12·03 in., though in 1894 the same period yielded 29 inches.

DIVISION XIV.—SOUTH WESTERN COUNTIES.

DALZELL HOUSE.—The spring months were exceptionally favourable, with just enough R to keep everything growing freely. August was very wet, R 6·09 in.; six inches having been reached only twice in 33 years. October, November and December were almost sunless.

DOCHROYLE.—R 3·07 in. less than the average of 23 years.

COLMONELL.—R 4·25 in. less than the average of 22 years, but 3·75 in. more than in 1895. Mean temp. 2°·9 below average.

PINMORE.—R ·43 in. below the average. The last five months were decidedly warm, December having a mean temp. 6°·7 above the average.

GARTHLAND.—There were 20 days on which an inch or more of R fell, and 50 days with half-an-inch or more.

DIVISION XV.—WEST MIDLAND COUNTIES.

CRAIGEND CASTLE.—R above the average and the greatest fall since 1890. The last five months wet and stormy.

STIRLING, POLMAISE.—R about the average. The spring and summer were very fine, the harvest was good, but protracted by R. The last three months wet.

BUCHLYVIE, THE MANSE.—Changeable, mild, wet and unsettled; the R being 9·38 in., and the rainy days 29, above the average of 9 years. The R in January, February and April was above, and in March, May, June, and specially July, was below, the average; resulting in a deficiency of ·71 in. in the seven months. With August wet weather set in which continued till the end of the year, culminating in December with a fall 4·65 in. above, or more than twice, the average, and only exceeded in one month in 10 years.

INVERARY, NEWTOWN.—Total R large; the fall in December (16·24 in. on 29 days) being extraordinary.

DRIMNIN. —The wettest year of the past ten.

ARDSHEAL.—Total R about 14·00 in. above the average. June and July were unusually dry, and November also, if the fall of 3·40 in. on 1st be excluded. December yielded the heaviest R (16·67 in. on 30 days) ever recorded.

BALLACHULISH, CRAIGRANNOCH.—R the greatest in 16 years; the fall in December (19·53 in. on 28 days) being the greatest in any month during the same period.

JURA, BAY OF SMALL ISLES.—R about 10·00 in. above the average.

DIVISION XVI.—EAST MIDLAND COUNTIES.

KINROSS, GELLYBANK.—Mild on the whole. Dry in the spring, very damp in the latter months.

STRATHMIGLO.—R 2·70 in. less than the average of 10 years.

OCHTERTYRE [STIRLING].—The R has only twice been exceeded in 18 years, namely 1884 and 1894.

GARTINCABER. —The R and rainy days are the greatest in any year since the record began. A flood in the river Teith in November was said to be the heaviest for 38 years, and another in December was almost as heavy.

COUPAR ANGUS.—A cold May; deficient R throughout the summer, sultry and close during the autumn, and excessive R in October and November.

ARBROATH, DISHLAND HILL.—R 3·87 in. less than the average of nine years.

STRACATHRO GARDENS.—Notwithstanding the long-continued drought in the early summer, the R is an average one.

DIVISION XVII.—NORTH EASTERN COUNTIES.

FETTERCAIRN, THE BURN.—Considerably more than half the total R fell in the three months April, October and November. The R of April was not only abnormal but unprecedented. The greater portion of the R of the year fell in batches; thus from April 27th to 30th, October 14th to 21st, and November 22nd to 28th, 19 days in all, 11·47 in. fell, or more than one-third of the total. A disastrous

drought lasted from June 7th to August 3rd, with the worst effects upon the grain crops.

ELLON, KERMUCK.—A wet and unfavourable spring to the end of May; warmth and sunshine in summer, and extending far through autumn.

WESTER ELCHIES SCHOOL.—There were short spells of wet weather followed by dry, bright spells during summer, and surface moisture quickly evaporated, so that by the end of August the subsoil was unusually dry. Springs failed in September, and did not flow again till the end of November.

FORRES, GRANGE HALL.—R above the average; September and December unusually wet.

DIVISION XVIII.—NORTH WESTERN COUNTIES.

ARDROSS CASTLE.—The year may be characterised as cold throughout with very little genial weather. The closing months were wet and unsettled. The max. temp. (82°) occurred on September 6th.

FORT AUGUSTUS.—The summer R was very slight, but this was compensated by the fall in December, 12·23 in. on 30 days; the highest recorded for any single month.

MUCOMIR.—Pratically no S fell during the year, and there was no continued frost.

DIVISION XIX.—NORTHERN COUNTIES.

DORNOCH.—Remarkably mild with scarcely any S. Though 4·33 in. of R fell in September, it came in large quantities chiefly at night, and the month was exceptionally warm.

DUNROBIN.—January was mild, with temp. above the average. The spring was wet and inclement, but the summer and autumn were fairly good. October and November were wet, and December was remarkably so. R for the year about 8·00 in. above average.

ALTNAHARRA.—The year may be described as dry, with summer from May to October. February and December very wet. Very little S.

KIRKWALL.—R more than 9·00 in. above that of any other year of the past 16; the falls for February, November and December almost unprecedented; rainy days also much in excess.

IRELAND.

DIVISION XX.—MUNSTER.

CASTLETOWNSHEND.—October, November, and December were unusually wet and stormy.

CORK, WELLESLEY TERRACE.—R 5·20 in. below, and rainy days 27 above, the average. The first three months had less than half the normal fall. Absolute drought for 18 days ending July 19th, and partial drought for 30 days, with ·27 in. of R, ending April 4th.

MALLOW, SUMMER HILL.—Abnormally dry. R 3·67 in. less than the average of eight years. Three falls exceeding 1·00 in. occurred. The potato crop was the best since 1847.

WATERFORD, COVE LODGE.—Total R about the average. October, with 5·64 in., being the only really wet month.

CLONMEL, BRUCE VILLA.—R six inches less than the average.

DERRY CASTLE [KILLALOE].—R 13 per cent., and rainy days 7 per cent., above the average. August and November were very wet, whilst March and July were the driest months. The fall in the remaining months did not vary much from the average; on eight days 1·00 in. or more fell.

NENAGH, CLASHNEVIN.—The first two months were very mild. Some hard frost occurred in March, and the ground was covered with S for a few hours. The spring was favourable for farm work, and there was a good R in April and May, which pushed vegetation. The hay crop was well saved in a fine July, but corn suffered from the cold and wet August, but was well saved in September and October. R about the average.

LIMERICK, ROXBOROUGH.—A fairly seasonable year. July was lovely; August wet and wild, but the best possible harvesting weather occurred in September.

BROADFORD, HURDLESTOWN.—A wet year. R 2·62 in., and rainy days 10, above the average of 13 years. Absolute drought for 15 days in July.

MILTOWN MALBAY.—A year of general humidity; the last five months having almost unceasing R. The spring was cold, with frosts in May, doing damage to potato and fruit crops. The autumn, and up to Christmas, humid and warm, causing excessive vegetation. The last week stormy, inclement, and very cold, with much T and L.

DIVISION XXI.—LEINSTER.

OULART, WELLS.—A drier year than usual by three or four inches.

GRAIGUE, BRANDONDALE.—R 3·46 in. less than the average of 13 years.

KILKENNY, SION VILLA.—Storms and gales occurred every month but July. The opening months were very mild, followed by cold but seasonable weather in March and April. The first half of May was wet and stormy, also the first week in June, followed by a lovely period to the end of July. August, as usual, was wet, but the crops were well saved, affording an abundant harvest in September, which was fine. The last three months were dark and foggy, and storms and gales prevailed.

TULLAMORE.—Absolute drought from July 2nd to 16th inclusive.

STRAFFAN HOUSE.—Like 1897, wet and sunless. The only sunshine of note was in the middle of June, in July, and in the early part of October.

KILLINEY, CLONEEVIN.—R 1·04 in. above the average of 13 years. January and December were remarkably mild. S and sleet fell on 11 days, but did not lie long.

DUBLIN, PHŒNIX PARK.—R 1·58 in. above the average of 10 years.

BALBRIGGAN, ARDGILLAN.—R ·76 in., and rainy days two, above the average of five years.

BALBRIGGAN, LARAGH.—R 2·09 in. above the average of 12 years. On October 17th 2·18 in. of R fell, which has been exceeded only once in 33 years, by 2·77 in. on October 26th, 1880, while there have been only four falls of more than two inches. The R of July was only ·50 in., or less than one-sixth of the average.

DIVISION XXII.—CONNAUGHT.

WOOD PARK [SCARIFF].—A very mild autumn and winter, the shade temp. never falling below 33°. August had the greatest R in the four years recorded.

TUAM, GARDENFIELD.—Rather dry; R 2·17 in. less than the average. February, June, August, and December, had more than the average, and the other months less. The spring was mostly fine, and crops were sown early and in good order. The R of summer was above the average, but July was mostly very fine.

The autumn R was considerably less than the average, particularly in September and October; which was a great advantage to farmers. The winter was mild, with no S, and no storm of consequence.

CONG, THE GLEBE.—R comparatively light till the end of July, but from the beginning of August to the end of the year, almost continuous R, and a remarkable absence of sunshine. Only twice in this period were there as many as five consecutive days without R.

BALLYMOTE, NEW PARK.—After an average R for the first six months, we had the driest July since 1870, with only 1·42 in. of R, or 2·27 in. less than the average of 10 years. A favourable September followed, resulting in an abundant potato crop.

COLLOONEY, MARKREE OBSERVATORY.—R ·88 in. below the average of 25 years. July was the driest, and February the wettest month.

BALLYSADARE BAY, GLEN LODGE.—The greater part of the R fell at night, making the summer and the autumn seem even drier than they were.

BALLINAMORE, LAWDERDALE.—The year may be considered an average one, the R being 1·09 in., and the rainy days three, less than the average of 10 years. February, April, August, and December, were all abnormally wet.

DIVISION XXIII.—ULSTER.

STRADONE HOUSE.—The early spring was wet and cold, but July was a good month, in which the crops grew remarkably.

CLOVERHILL.—January was very mild; S showers fell on February 20th, and there was frost from the 21st to the 24th. S showers fell also on March 13th and November 27th, and there were frosts on four nights in the latter month. There was no hard frost throughout the year.

LURGAN, BELLE VUE.—R 2·05 in. below the average of 17 years, and rainy days fewer than in any year except 1887. March was very dry; May wet and very cold; July was a remarkable month, the R being only ·39 in., or 2·91 in. less than the average of 18 years, and by far the least in that period. The R in November and December was also much below the average.

BALLYMENA, HARRYVILLE.—January and July were the driest

months, the latter having only ·62 in. of R, and April was the wettest, with 5·45 in. on 24 days. Max. temp. 81° on September 4th.

GARVAGH, MONEYDIG.—A warm summer, and part of it very dry. Very good harvest weather, and a mild autumn, with extra growth of grass, and strong gales. During the winter there was practically neither S nor ice; only on the night of November 28th, there was a strong S.E. gale with soft S, and 10 or 12 days about that time were very cold and stormy.

LIMAVADY, DRENAGH.—The last four months were extremely wet.

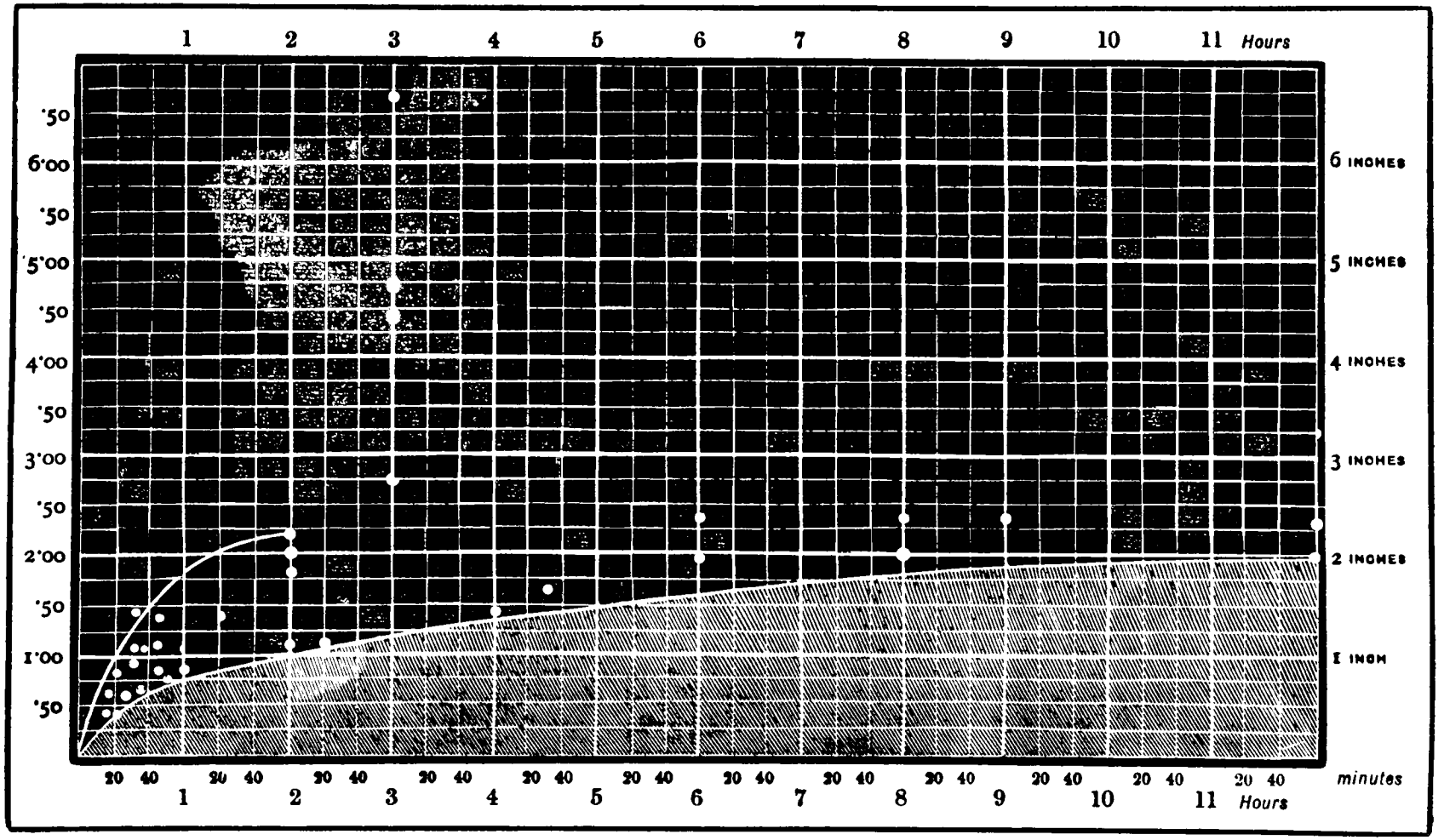
STEWARTSTOWN, THE SQUARE.—R about the average.

OMAGH, EDENFEL.—Following upon an extremely mild winter, there was a wet seed time, and early summer, but July was especialy fine and favourable. August was warm and humid, followed by a fine but not too dry September, and an abundant harvest was well secured. October, November, and December, were generally mild and wet.

KILLYBEGS.—R the greatest in any year since the record began in 1887.

LOUGH SWILLY, CARRABLAGH.—The wettest year by more than 1·00 in., with the most wet days and the longest spell of R since observations commenced in 1888. This was due to the extremely wet November and December.

HEAVY FALLS IN SHORT PERIODS.



The shaded portion represents falls too numerous to require insertion ; the short white curve, extremes rarely exceeded.

Face p. [113]

HEAVY FALLS IN SHORT PERIODS IN 1898.

EXCEPT at stations provided either with a self-recording rain gauge, or a storm rain gauge, it is not easy to obtain the information needed for the following table. Intense rains rarely both begin and end suddenly, and one does not always know when a R begins, whether it is going to become exceptionally heavy or not, and therefore the minute of commencement is rarely recorded, and as the natural result the duration of the R has to be estimated. It is certain that although the figures collected in the tables given yearly under the above heading are very startling, they might be multiplied tenfold were every observer provided with one or the other of the instruments above named. We may illustrate this from the article on the Angerton storm upon an earlier page. The observer had only an ordinary gauge, holding 3·80 in., the terrific storm came on, the observer was sharp enough to realize that there might be danger of an overflow and so he rushed out, emptied the gauge and replaced it and thereby secured the remarkable total of 6·70 in. in about three hours. So far very good, and he deserves both credit and thanks, but it is obvious that the fall was not of equal intensity during that long period, and that, had it been possible to read off the fall minute by minute, it would have been found that during parts of the time R was falling at a rate far in excess of the 2·23 in. per hour given by the total duration. Therefore, as we have already implied, perfect apparatus, and observers who never went off duty by day or by night, would undoubtedly collect hundreds of additional records. These conditions we cannot expect to see fulfilled, but the records which we give are we believe trustworthy, and of unequalled value as an indication of what exceptional falls may occur, and the only effect of the additional resources (which we have just mentioned) would be

to demonstrate that these intense rains occur much more frequently than is supposed.

It is not easy to define what constitutes an intense rain, because the importance of a fall depends upon two variables, its quantity and its duration. Experience seems to show that the following limits are suitable :—

	Frequent.	Noteworthy.	Exceptional.
In 15 minutes ...	·33 in.	·34 to ·75	Above ·75 in.
,, 30 ,, ...	·50 ,,	·51 to 1·25	,, 1·25 ,,
,, 45 ,, ...	·65 ,,	·66 to 1·60	,, 1·60 ,,
,, 1 hour ...	·75 ,,	·76 to 1·75	,; 1·75 ,,
,, 2 hours ...	1·00 ,,	1·01 to 2·00	,, 2·00 ,,

The following table contains no record which does not exceed the "frequent" rate, because if it did the table would become far too large. We give only the "noteworthy" and the "exceptional" entries. The latter are rather scarce this year, as five of them are due to one storm; the exceptional values are, as usual, indicated in the table by an affixed x.

The "noteworthy" and "exceptional" falls are as usual shown on the accompanying diagram—the latter being above the curved line which indicates the separation between the two. The various returns mentioned in the article on the Angerton storm, though vague as to time, were probably all well within three hours, and are therefore so marked; it will be seen that they are so exceptional as to nearly run off the diagram.

Heavy Falls in Short Periods in 1898.

Date.	Div.	Station.	Amount.	Duration.		Rate per hour.
			in.	hr.	min.	in.
July 28 ...	VI.	Lifford Sewage Works	·16	...	4	2·40
May 22 ...	,,	King's Heath, Cambridge Rd.	·12	...	4	1·80
July 28 ...	,,	,, ,, ,, ,,	·16	...	5	1·92
,, 27 ...	I.	Camden Square	·16	...	6	1·60
Aug. 18 ...	V.	Tavistock, Whitchurch	·38	...	8	2·85
,, 6 ...	III.	Addington Manor	·27	...	8	2·03
July 22 ...	IX.	Middlesborough, Ormesby ...	·45	...	9	3·00
May 22 ...	V.	Polapit Tamar.....	·30	...	10	1·80
July 28 ...	II.	Sheppey, Leysdown	·25	...	10?	1·50
,, ,, ...	,,	Lewes, Saxonbury	·32	...	14	1·37
June 24 ...	V.	Bishops Cannings	·75	...	15	3·00
Aug. 6 ...	III.	Oxford, St. Giles'	·75	...	15	3·00
,, 18 ...	XI.	Haverfordwest	·50	...	15	2·00

Heavy Falls in Short Periods in 1897—continued.

Date.	Div.	Station.	Amount.	Duration.		Rate per hour.
			in.	hr.	min.	in.
Aug. 18 ...	XI.	Dowlais, Gwernllwyn	·45	...	15	1·80
July 22 ...	IX.	Middlesborough, Ormesby ..	·57	...	17	2·00
May 24 ...	XXII.	Woodlawn	·80	...	20	2·40
June 6 ...	IX.	Baldersby	·40	..	20	1·20
Aug. 6 ...	V.	Otterford, Otterhead.....	·53	...	24	1·33
,, ,, ...	III.	Ely, Stretham.....	·95	...	25	2·28
May 2 ...	V.	Plymouth.....	·93	...	25	2·23
Aug. 6 ...	III.	Woburn Experimental Farm.	1·05	...	30	2·10
,, 8 ...	VIII.	Stretford	·95	...	30	1·90
,, 18 ...	XI.	Dowlais, Gwernllwyn	·60	...	30	1·20
May 23 ...	III.	Chipping Norton, Lyneham...	1·47	...	30?	2·94x
Aug. 19 ...	VII.	Leicester	1·05	...	35	1·80
,, 6 ...	III.	Longstowe	·95	...	35	1·63
May 2 ...	V.	Polapit Tamar	·65	...	35	1·11
Aug. 6 ...	III.	Addington Manor	·95	...	40	1·43
,, 21 ..	VI.	Ross, The Graig.....	·90	...	40?	1·35
,, 6 ...	III.	NewportPagnell,BrayfieldHo.	·85	...	40?	1·28
July 27 ...	,,	Slough, Langley.....	1·37	...	45	1·83
May 2 ...	V.	Plymouth.....	1·13	...	45	1·51
July 22 ...	XXII.	Wood Park [Scariff]	·79	...	45	1·05
Aug. 18 ...	V.	Meavy, Yelverton	·70	...	45	·93
,, ,, ...	,,	,, ,, ...	·75	...	50	·90
May 24 ...	,,	Salisbury, Tintinhull.....	1·28	1	0?	1·28
Oct. 17 ...	,,	Kingskerswell, South Hill ...	1·00?	1	0	1·00
Aug. 15 ..	II.	Wootton, Fernhill	·80	1	0?	·80
May 22 ...	VI.	Church Stretton, Woolstaston	·75	1	0	·75
,, 23 ...	,,	,, ,, ,,	1·38	1	20	1·04
Nov. 2 ...	XI.	Pontypridd, Maesderwen.....	2·24	2	0	1·12x
Sep. 7 ...	X.	Morpeth, Cockle Park	2·01	2	0	1·01x
Dec. 1 ..	XIV.	Maybole, Sauchrie..... ...	1·78	2	0?	·89
June 26 ...	VII.	Nottingham, Beeston Fields..	1·08	2	0	·54
Aug. 6 ...	VI.	Coventry, Priory Row	1·09	2	20	·47
Sep. 7 ...	X.	Morpeth, Angerton	6·70	3	0?	2·23x
,, ,, ...	,,	,, Gallowhill.....	4·75	3	0?	1·58x
,, ,, ...	,,	,, Netherwitton	4·45	3	0?	1·48x
,, ,, ...	,,	,, Linden	2·75	3	0?	·92x
Aug. 30 ...	XIII.	Edinburgh, Blacket Place ...	1·42	4	0	·36
,, 9 ...	XVIII.	Skye, Strathaird	1·63	4	30	·36
July 21 ...	IX.	Sandbeck Park	2·29	6	0?	·38
Nov. 2 ...	X.	Kendal, Holmcroft	1·99	6	0	·33
Aug. 1 ...	XVIII.	Skye, Strathaird.....	2·34	8	0	·29
June 17 ...	,,	,, ,, ...	2·00	8	0	·25
Nov. 23 ...	XXI.	Straffan House	2·00	8	0?	·25
Aug. 5 ...	IX.	Sedbergh Cemetery	2·39	9	0	·27
,, 26 ...	X.	Buttermere, Hassness	3·25	12	0	·27
June 10 ..	IV.	Bury St. Edmunds, Westley.	2·30	12	0	·19
Nov. 23 ...	V.	Salisbury, Wilton House	2·00	12	0	·17
Aug. 5 ...	IX.	Sedbergh, Brig Flatts	1·98	12	0	·17
Nov. 1 ...	X.	Keswick, Barrow House	3·50	13	30	·26
,, 1 & 2...	,,	Ambleside, Skelwith Bridge..	6·14	21	0	·29
Aug. 4 ...	,,	,, ,, ,,	4·12	21	0	·20

HEAVY FALLS ON RAINFALL DAYS IN 1898.

YEAR by year we are glad to find increasing evidence of obedience to the rules laid down in "Arrangements" for the benefit of all observers, and to ensure strict uniformity of practice.

In early days, observers measured the rainfall when they individually thought best, but evidently this prevented their observations being comparable; we pointed this out, and finding that 8 or 9 a.m. was far more usual than any other hour, we appealed to those adopting other hours to change to that of the majority; and now not one observer in 100 adopts any other time.

Another point was more difficult to deal with, viz.: granted that the reading be taken at 9 a.m., was it to be entered against the date of measurement, or against the day on which—in the ratio of 15 to 9—it most probably fell? As to this, we found there was uncertainty, and therefore (34 years ago) we took a ballot; sending a paper to all observers asking what their practice was, what they thought best, and whether they would adopt the decision of the majority. The replies were examined, a large majority was in favour of the fall being entered to the previous day, and so Rule IX. came into existence. Until it did, the difficulty of compiling this section of the volume was excessive, because it was almost impossible to know whether a fall entered against, say July 11th, really belonged to that day or to July 10th. Happily now, nearly all observers work uniformly, and those who do not are readily detected, and their entries put right. Their number is rapidly diminishing, and we hope that they will soon disappear entirely, as it gives much trouble.

Having then all the records tabulated for their proper dates, we pick out the greatest fall on any one "rainfall day," *i.e.*, 9 a.m. to 9 a.m. at each station (about 3,000 entries), these are for brevity described as M, *i.e.*, max. falls of the year. These are discussed in two portions. First, chronologically, so as to show the distribution,

both in date and in area, of all the chief rains (or snows) of the year. For this purpose all falls of $2\frac{1}{2}$ inches or more in 24 hours are selected from the entire mass of M. Similarly, in order that dry districts may not be neglected, every M which amounts to $7\frac{1}{2}$ per cent. of the year's total is copied out. These two groups supply the data on which the so-called Chronicle is based. The second portion, entitled "Abstract," is really an epitome of the whole 2,691 entries, and is sufficiently explained on a subsequent page.

PART I.—CHRONICLE.

JANUARY 29TH.

Heavy falls in the vicinity of Snowdon—

XI.	Arenig (Bodrennig)	3·00 in.	or 4·0 per cent.
,,	Blaenau Ffestiniog	5·00 ,,	3·9 ,,

FEBRUARY 21ST.

This was the date of M for most of Dorsetshire and parts of W. Hampshire and S. Somersetshire. It was due to a very heavy snow storm, of which an account was given in the *Met. Mag.* for March 1898. The many records received subsequently to the publication of that account, do not indicate the necessity for changing one word in the conclusion then arrived at, viz. :—

> "The fall reached, or exceeded, 12 inches over the area contained between two lines, the northerly one running about E.S.E. from Watchet through Yeovil to Lymington, and the southernly one from Porlock through Tiverton to Bridport, say 60 miles by 20 miles. The greatest depth (about 24 inches) occurred nearly centrally in this belt, say, between Milverton and Crewkerne."

The only records entitled to entry here are—

V.	Bere Regis	1·81 in.	or 7·5 per cent.
,,	,, ,, Bloxworth House	2·61 ,,	10·1 ,,

MARCH 16TH.

XVIII.	Inverie	3·02 in.	or 2·8 per cent.

MAY 20TH.

The M at about 100 stations, rather scattered, but chiefly in the Midland Counties of England. The amounts were generally small,

and the percentages rarely reached 6 per cent. At only one station was the percentage high enough for record here—

III. Alconbury ..... 1·34 in. or 7·6 per cent.

MAY 23RD.

A few small M, chiefly in Division VI.; only one entry of importance—

VI. Knypersley [Congleton]..... 2·95 in. or 7·0 per cent.

JUNE 9TH.

The M at about 120 stations, chiefly in the E. of England, from Dover to Yarmouth. The amounts were mostly about 1 or 1½ inches, very few exceeding 2 inches; but 7½ per cent. was reached, or exceeded at—

II.	Birchington, Thor	1·44 in.	or 7·8 per cent.
,,	Reculver, Brook	1·54 ,,	9·4 ,,
,,	St. Peters.....	1·40 ,,	7·5 ,,
,,	North Foreland	1·31 ,,	7·5 ,,
,,	White Ness, Kingsgate	1·35 ,,	7·9 ,,
,,	Margate, Apsley House.....	1·59 ,,	8·5 ,,
IV.	Ipswich, Orwell Park.....	1·76 ,,	7·9 ,,
,,	,, Belstead Hall	1·84 ,,	8·6 ,,
,,	Alderton	1·85 ,,	8·5 ,,
,,	Sudbury, Friars Street	1·84 ,,	9·2 ,,
,,	,, Newton Road.....	1·80 ,,	9·1 ,,
,,	Haverhill, Great Thurlow.....	1·54 ,,	7·6 ,,
,,	Clare, Hawkedon	1·97 ,,	9·4 ,,
,,	Little Saxham	1·91 ,,	9·0 ,,
,,	Bury St. Edmunds, Westley.....	2·13 ,,	9·6 ,,
,,	,, ,, Hengrave	1·67 ,,	8·3 ,,
,,	Bacton	1·70 ,,	8·1 ,,
,,	Ixworth, Walsham-le-Willows	2·06 ,,	9·3 ,,
,,	Lowestoft.....	1·98 ,,	8·8 ,,
,,	Burgh Castle	1·66 ,,	8·2 ,,
,,	Ellingham	1·63 ,,	8·2 ,,
,,	Saxlingham Nethergate.....	2·85 ,,	12·4 ,,
,,	Norwich, Dunston Hall.....	2·08 ,,	8·2 ,,
,,	Yarmouth.....	1·67 ,,	8·0 ,,
,,	Norwich, Brundall	1·80 ,,	7·7 ,,
,,	,, Thorpe.....	1·85 ,,	8·2 ,,
,,	Acle	1·55 ,,	7·8 ,,

JULY 22ND.

A heavy TS M in South Yorkshire—

VII.	Hesley Hall [Tickhill]	2·15 in.	or 11·2 per cent.
IX.	Tickhill, Sandbeck Park	2·29 ,,	10·5 ,,
,,	Rotherham, Moorgate Grove	1·70 ,,	7·5 ,,
,,	,, Thrybergh.....	2·22 ,,	10·7 ,,
,,	Tickhill.....	2·55 ,,	11·7 ,,
,,	Doncaster, Firsby	2·89 ,,	12·1 ,,
,,	,, Wadworth Hall	3·18 ,,	13·9 ,,
,,	,, Sewage Works.....	1·94 ,,	9·2 ,,
,,	,, Market Place.....	2·01 ,,	9·8 ,,
,,	,, Kirk Bramwith	1·96 ,,	9·9 ,,

JULY 27TH.

Sharp TS at Slough, but the fall generally less than an inch, except at Langley, where 1·37 in. fell in three-quarters of an hour—

III.	Slough, Langley	1·62 in. or 8·9 per cent.

AUGUST 3RD.

The date of M at many stations in Divisions VI., VIII. and IX.; but there is only one entry of sufficient importance for record here—

VIII.	Sandbach, Malkins Bank	1·70 in. or 7·8 per cent.

AUGUST 5TH.

As will be seen from the Observers' Notes, the following falls are due to TSS—

IX.	Sedbergh, Brig Flatts	3·16 in.	or 5·6 per cent.
,,	,, Akay	3·30 ,,	5·6 ,,
,,	,, Cemetery	3·31 ,,	5·6 ,,
,,	,, Thorns Hall	3·25 ,,	5·7 ,,
,,	Hawes Junction	2·79 ,,	4·5 ,,
X.	Hartlepool, Lynn Street	1·14 ,,	7·8 ,,
,,	Ulpha School	2·51 ,,	3·4 ,,
,,	Kendal, Helm View	2·51 ,,	4·5 ,,
,,	,, Ellergreen	2·76 ,,	4·3 ,,
,,	Grasmere, High Close	3·17 ,,	3·4 ,,

AUGUST 6TH.

These M are, like those of the 5th, due to TSS—

III.	Althorp House	1·34 in.	or 7·9 per cent.
V.	Bridgwater, Enmore Park	2·25 ,,	7·8 ,,
VI.	Warwick, Cubbington	1·62 ,,	8·0 ,,
,,	Snitterfield	1·59 ,,	7·8 ,,
VII.	Uppingham	1·60 ,,	8·3 ,,
,,	Tolethorpe Hall	1·44 ,,	7·8 ,,
,,	Burleigh-on-the-Hill	1·74 ,,	8·4 ,,
,,	Market Overton	1·71 ,,	7·9 ,,
,,	Stocken Hall	1·57 ,,	7·5 ,,
,,	Market Deeping, Wilsthorpe	1·29 ,,	7·7 ,,
,,	Boston, Black Sluice	1·56 ,,	7·7 ,,
,,	,, Grand ,,	1·60 ,,	7·9 ,,
,,	,,	1·67 ,,	8·7 ,,

AUGUST 15TH.

Heavy TS in Northamptonshire—

III.	East Carlton	1·68 in. or 8·6 per cent.

AUGUST 18TH.

The date of M for South Devon., North Cornwall and the opposite Welsh coast near Cardiff—

V.	Sheepstor, Red Stone	2·61 in.	or 5·5	per cent.
,,	Dartmoor, Deancombe Farm	2·55 ,,	5·0	,,
XI.	Swansea, Oystermouth	2·73 ,,	6·1	,,
,,	,, Le Mayals	2·70 ,,	6·0	,,

AUGUST 19TH.

A Staffordshire and Leicestershire R—

VI.	Brewood, Belvide Res.	1·76 in.	or 8·4	per cent.
VII.	Kibworth	1·79 ,,	7·5	,,
,,	Thurcaston	1·62 ,,	7·7	,,

AUGUST 21ST.

A Herefordshire local M—

VI.	Upton Bishop	1·86 in.	or 9·0	per cent.

AUGUST 26TH.

The M at a few widely-scattered stations.

XI.	Rhiwbryfdir, Oakley Quarries	3·26 in.	or 3·1	per cent.

SEPTEMBER 7TH.

See special article on the Angerton storm of this day. Several of the amounts there quoted are from gauges of which the records for the whole year have not been preserved; the only two for which the percentage can be computed are—

X.	Morpeth, Angerton Hall	6·70 in.	or 18·1	per cent.
,,	,, Cockle Park	2·01 ,,	7·6	,,

SEPTEMBER 29TH.

The M at about 150 stations, mostly, but not exclusively, in the South of England—

II.	Haslemere, Blackdown House	2·53 in.	or 9·8	per cent.
,,	,, Lower Street	2·42 ,,	7·7	,,
,,	Chiddingfold	2·31 ,,	8·6	,,
,,	Liphook, Borden Wood	2·18 ,,	8·3	,,
,,	Midhurst, Hollycomb	2 46 ,,	8·5	,,
,,	Andover	2·15 ,,	8·0	,,
,,	Reading, Englefield	1·85 ,,	7·8	,,

OCTOBER 17TH TO 19TH.

This was a three days R of considerable importance, which it will be convenient to treat as a whole, because the actual date of M varied considerably. We are not certain that some of the discrepancies as to date in the following table are not due to the neglect of Rule IX., but we must leave the responsibility with the observers. We give the table first, and some remarks upon it at the end.

Div.	STATION.	17th.	18th.	19th.	Per cent.
		in.	in.	in.	
II.	Farnham, Bourne Vicarage	...	1·81	...	7·8
,, ...	Hartley Maudit	...	1·75	...	7·6
,, ...	Bylands	...	1·53	...	7·7
,, ...	Strathfieldsaye	...	1·71	...	8·2
,, ...	Reading, Englefield	...	1·85	...	7·8
,, ...	,, Calcot Place	...	1·74	...	8·3
V.	Devizes, Wilts County Asylum	...	1·75	...	7·8
,, ...	Bideford, Gammaton.....	...	3·35	...	10·0
,, ...	,, Horwood	...	2·25	...	8·0
,, ...	Northam, St. Helens.....	...	2·94	...	11·7
,, ...	,, Vicarage	...	2·61	...	8·5
,, ...	Instow	...	3·21	...	11·3
,, ...	Martinhoe	...	...	2·68	6·2
,, ...	Antony House [Devonport].....	...	3·45	...	9·1
,, ...	Liskeard, Trevillis.....	...	2·73	...	7·4
,, ...	,, Green Bank	...	2·85	...	6·5
,, ...	Altarnon	...	2·72	..	5·2
VI.	Filton	...	...	2·18	8·2
,, ...	Over Court	...	...	2·79	8·8
,, ...	Wickwar	...	...	2·21	8·2
,, ...	Dursley	...	...	2·60	9·6
,, ...	Berkeley Castle	...	...	2·12	8·1
,, ...	Stroud, Stanley Park	...	...	1·95	8·0
,, ...	,, Upfield	...	...	1·82	7·7
,, ...	Whitminster	...	...	1·98	8·7
,, ...	Haresfield Court	...	...	1·96	7·8
,, ...	Witcombe Reservoir	...	...	1·83	7·5
,, ...	Gloucester, Lower Barton Street	...	..	1·79	7·9
,, ...	,, Wotton Asylum	...	...	1·81	8·1
,, ...	Clunbury Vicarage	...	2·02	...	7·9
,, ...	Pontesbury, Somerville	...	...	1·75	8·2
IX.	Masham, Leighton.....	2·29	...	...	7·7
X.	Wallington	...	2·69	...	8·4
,, ...	Cambo, Rothley Crag	...	2·65	..	7·8
,, ...	Rothbury, Cragside	...	3·25	...	10·5
,, ...	Biddleston	...	2·45	...	7·6
XII. ...	Kelso, Springwood Park	...	1·98	...	10·0
XIII. ...	The Hirsel	...	1·85	...	8·6
,, ...	Marchmont	...	2·38	...	8·4
,, ...	Duns Castle.....	...	2·28	...	8·0
,, ...	Musselburgh, Drummore	...	1·77	...	8·0
,, ...	Haddington, District Asylum.....	...	2·34	...	9·3
XVI. ...	Balcarres	...	2·36	...	8·0
,, ...	Balmerino	...	2·63	...	9·6
,, ...	Tayport	...	2·13	...	9·0
,, ...	Kinfauns Castle.....	...	2·64	...	9·3
,, ...	Buddonness.....	...	1·90	...	7·8
,, ...	Dundee Harbour	...	2·42	...	8·8
,, ...	Broughty Ferry	...	2·60	...	9·8
,, ...	Dundee Necropolis	...	2·46	...	9·1
,, ...	,, Dens Works.....	...	2·51	...	9·4
XXI. ...	Roundwood, Vartry Lodge	2·80	...	...	5·3
,, ...	Balbriggan, Ardgillan	...	2·45	...	8·3
XXIII...	Quolie Reservoir	...	2·75	...	6·4

This table amply shows the importance of this M, both as regards amount and the wide area over which it was spread; it does not show the full amount of the fall, because, as we have already mentioned, it was part of a three days' rain. This feature is shown by the following table of stations at which the fall for the three days was at least 4½ inches; roughly, an-inch-and-a-half a day for three consecutive days. It was all needed to make up for previous drought, but it is a long time since North Devon had three such consecutive days.

Div.	STATION.	17th.	18th.	19th.	Total.
		in.	in.	in.	in.
V.	Torrington, Stevenstone	·92	2·57	1·35	4·84
,, ...	,, Little Silver.....	·84	2·70	1·28	4·82
,, ...	Bideford, Gammaton.....	·67	3·35	1·41	5·43
,, ...	Northam Vicarage.....	·72	2·61	1·25	4·58
,, ...	Martinhoe	·98	1·77	2·68	5·43
,, ...	Altarnon	1·33	2·72	1·50	5·55
VI.	Over Court	·87	1·41	2·79	5·07
X.	Rothbury, Cragside	1·00	3·25	·75	5·00
XI.	Chepstow, Shirenewton	1·62	1·74	2·00	5·36
,, ...	,, Penhain	1·54	1·76	1·68	4·98
,, ...	Itton Court	1·39	1·28	1·94	4·61

OCTOBER 29TH.

The M at many stations in the S.E. of England, but by no means an important one; the only records entitled to special mention are—

II.	Worthing, Ellesmere	1·76 in.	or 7·8	per cent.
III.	Oxford, Radcliffe Observatory.....	1·52 ,,	7·7	,,
,,	,, Norham Road	1·48 ,,	7·7	,,
IV.	Harlow, Sheering	1·65 ,,	7·9	,,

NOVEMBER 1ST AND 2ND.

It will be well, as regards the English Lakes, to take these two days together, because the rain fell until some time after 9 a.m. on the 2nd, and it was the total of the two rainfall days, falling really in perhaps a third of the 48 hours, which caused the great damage in the Lake District.

The percentages, of course, relate only to the 1st, not in any way to the 2nd or to the sum of the two days. Moreover, the amounts

are given for the 2nd, only for stations for which we have the figures, and at which the fall on the 2nd exceeded two inches.

		1st.	2nd.	Per cent.
VIII.	Finsthwaite	2·80	..	4·7
,,	Seathwaite Vicarage	3·16	...	3·7
,,	Monk Coniston Park	2·60	...	2·4
,,	Skelwith Fold	3·52	2·52	3·8
X.	Seathwaite	5·20	3·60	3·4
,,	Cleator Moor W.W.	3·30	...	5·0
,,	Rosthwaite	5·12	3·51	4·4
,,	Borrowdale, Grange	4·65	4·45	4·9
,,	Keswick, Barrow House	3·50	3·25	4·8
,,	,, Deer Close	3·14	...	5·0
,,	,, Derwent Island	2·75	...	4·4
,,	,, Eskin Place	2·82	...	4·7
,,	,, Bank	2·80	...	5·0
,,	,, Shu-le-Crow	2·51	...	4·3
,,	Cockermouth, Whinfell Hall	2·95	...	5·7
,,	,, Brandlingill	2·73	...	4·7
,,	Skelwith Bridge	4·70	2·20	4·7
,,	Ambleside, Gale House	4·40	2·30	5·2
,,	,, Lesketh Howe	4·05	...	4·5
,,	Dungeon Ghyll	3·85	3·41	2·9
,,	Grasmere	4·05	2·85	4·0
,,	Patterdale Hall	4·07	2·47	4·8
,,	,, Greenside	4·85	2·60	4·6
,,	Ullswater, Sharrow Bay	2·80	...	6·0
XII.	Dalry, Old Garroch	2·80	...	4·9
XIV.	Lochwinnoch, Garthland	2·75	...	3·9
,,	Prospect Hill	2·92	...	4·3
XV.	Benmore	3·02	...	3·1
,,	Inverary, Newtown	3·15	...	3·7
,,	Ballachulish, Ardsheal	3·40	...	3·9
,,	,, Craigrannoch	2·87	...	2·8
,,	Laudale	3·03	...	3·9
,,	Conaglen	5·09	...	4·3
XVI.	Stronvar	3·67	...	4·4
XVIII.	Glencarron	2·67	...	2·3
,,	Loch Torridon, Bendamph	3·70	...	3·4
,,	Glenquoich	4·50	...	3·2
,,	Skye, Strathaird	3·27	...	2·9
,,	,, Scalpay	3·00	...	3·2
,,	Invergarry	2·90	...	4·6

It will be seen that the fall in the two days exceeded eight inches at three stations: Seathwaite, 8·80 in.; Rosthwaite, 8·63 in.; Grange, 9·10 in., these stations being all in the Borrowdale valley at the head of Derwentwater.

NOVEMBER 2ND.

We now pass to a true M for the above date, which occurred chiefly in Glamorganshire.

XI.	Pontypridd Reservoir	3·65 in.	or 6·3	per cent.
,,	,, Maesderwen	3·19 ,,	6·3	,,
,,	Neath, Glyncorrwg	3·36 ,,	3·7	,,
,,	Mountain Ash, Clydach Res.	3·33 ,,	4·9	,,
,,	Treherbert, Bute Colliery	3·55 ,,	4·2	,,
,,	,, Tyn-y-waun	3·85 ,,	4·7	,,

NOVEMBER 23RD.

The date of M at several hundred stations, mostly in the S. of England and the S.E. of Ireland; the records entitled to notice here are—

II.	Hascombe, Hall Place	1·66 in.	or 7·7	per cent.
,,	Cranleigh Common	1·72 ,,	7·7	,,
,,	Godalming, Charterhouse	1·99 ,,	8·4	,,
,,	Petworth Park	2·45 ,,	9·2	,,
,,	Midhurst, St. Ann's	2·44 ,,	9·3	,,
,,	Hurstpierpoint, The College	1·83 ,,	8·7	,,
,,	Ampfield Vicarage	1·98 ,,	8·0	,,
,,	Petersfield, Fairley	2·56 ,,	8·5	,,
,,	,, Steep	2·09 ,,	8·9	,,
,,	Kilmeston Manor	2·27 ,,	8·4	,,
,,	Alresford, Hinton Ampner	2·05 ,,	7·6	,,
,,	,, Ovington	2·28 ,,	8·9	,,
,,	,, Itchen Stoke	2·08 ,,	8·7	,,
,,	Greatham, King's Holt	2·35 ,,	9·1	,,
V.	Salisbury, Tintinhull	2·05 ,,	8·0	,,
,,	Wimborne Minster, Horton	2·19 ,,	8·3	,,
,,	Budleigh Salterton, Ravenshaw	1·90 ,,	8·0	,,
,,	,, ,, Syon House	1·91 ,,	7·7	,,
,,	,, ,, Bicton	1·90 ,,	8·0	,,
,,	Otterford, Otterhead	3·35 ,,	9·1	,,
,,	Taunton, Claremont	2·02 ,,	7·9	,,
,,	Bridgwater Nurseries	2·30 ,,	8·6	,,
,,	Stockland Bristol	1·88 ,,	7·5	,,
XXI.	Glen-na-Smoel	3·66 ,,	7·3	,,
,,	Dublin, Phœnix Park	2·45 ,,	8·2	,,
,,	Lucan (The Gardens)	2·65 ,,	8·8	,,

DECEMBER 4TH.

A wet day in the neighbourhood of the Caledonian Canal.

XVIII.	Glenfinnan	3·48 in.	or 2·6	per cent.
,,	Fort William Observatory	3·66 ,,	3·6	,,
,,	,, Ardtraigh	3·64 ,,	3·5	,,
,,	Laggan Locks	2·77 ,,	3·1	,,

DECEMBER 6TH.

The date of M for London and for many stations in Divisions I. to V., but not one of them of any importance.

DECEMBER 22ND.

XXII.	Kylemore House	2·97 in.	or 3·7	per cent.

DECEMBER 26TH.

A heavy M, especially in Wales and the West of England.

VI.	Bridgnorth, Cantreyn Bank	1·93 in.	or 7·8	per cent.
XI.	Tredegar, The Willows	3·18 ,,	5·7	,,
,,	Mountain Ash, Maesydderwen	2·97 ,,	5·9	,,
,,	,, Darranlas	3·00 ,,	5·2	,,
,,	Aberdare, Cwmaman..... ...	2·85 ,,	4·8	,,
,,	,, The Mardy	3·62 ,,	7·2	,,
,,	,, Abernant	3·68 ,,	7·5	,,
,,	Dowlais, Gwernllwyn.....	2·82 ,,	6·0	,,
,,	Nanthir Reservoir	3·75 ,,	7·1	,,
,,	Ebbw Vale	2·95 ,,	5·4	,,
,,	Taff Fechan, Pentwyn	2·68 ,,	4·4	,,
,,	Cardiff W.W., Cantreff.....	3·05 ,,	4·3	,,
,,	,, Cwm Taff Fawr No. 6	3·71 ,,	4·5	,,
,,	Taff Fechan, Neuadd No. 4	3·36 ,,	4·2	,,
,,	Llandefaelog fach	2·63 ,,	5·8	,,
,,	Abergwesyn Vicarage.....	3·34 ,,	5·0	,,
,,	Aberystwith, Gogerddan	2·75 ,,	5·4	,,
,,	Rhayader, Nantgwillt	2·51 ,,	4·4	,,
,,	Lake Vyrnwy	2·65 ,,	4·4	,,
,,	Capel Curig, Lake Cowlyd	3·20 ,,	5·5	,,

PART II.—ABSTRACT.

We have long held, but cannot induce many observers or engineers to believe what is stated in Rule XVI., viz.: "There does not seem to be any part of the British Isles where 4 inches may not fall in 24 hours. It is not desirable to purchase any gauge which will not hold 6 inches of R."

Ample justification for this rule will be found in the following tables, which give abstracts and results from the calculations of the M at 2,691 stations for 1898.

Table I. gives the 16 largest amounts observed at any of the stations during 1898. It will be seen that most of the entries are due to the R storm in the English Lakes on November 1st, but that Angerton, Morpeth (which has a mean annual fall of about 30 inches) beats even Seathwaite by $1\frac{1}{2}$ inches.

Table II gives an abstract of Table I. and similar abstracts for 33 previous years. The mean of the 16 stations is above—but not very remarkably above—the average, but the absolute M has had very few precedents; only the following:—

1869	Seathwaite.....	6·70 in.	1894	Ben Nevis	7·74 in.
1884	,, ...	6·78 ,,	1897	Seathwaite.....	8·03 ,,
1890	Ben Nevis	7·29 ,,			

Thus we see that the rather dry station of Angerton has had a fall greater than at any station except Seathwaite and Ben Nevis.

In Table III. we have the 16 stations at which the M was largest relative to the total in the year, *i.e.*, the largest per centages, and in Table IV. an abstract of it.

Here, again, the very remarkable intensity of the Angerton storm comes out. Hitherto the storm at Hartlip, near Sittingbourne, in Kent, has held first place, with 17·7 per cent. of the yearly total falling in one day, but Angerton gave 18·1 per cent., and is unprecedented for 33 years. We said that these tables confirmed our Rule; it may be well to prove it by quoting from Table IV. falls of 4 inches or upwards at dry stations—mostly stations with a mean annual fall of about 25 inches, not one with more than 35 inches.

1865	Aug. 23	Fleckney, Market Harborough, Leicester ...	4·40 in.
1867	July 26	Hartlip, Sittingbourne, Kent	4·78 ,,
1870	Sep. 7	Tongue House, Sutherland	6·00 ,,
1883	,, 29	Skegness, Lincoln	4·31 ,,
1886	July 25	Methley Park, Leeds, Yorks	4·10 ,,
1889	Sep. 2	N. Ockendon, Romford, Essex	4·45 ,,
1892	July 16	Tyntesfield, Flax Bourton, Somerset	4·27 ,,
1893	,, 11	Cranmer Hall, Fakenham, Norfolk.....	4·48 ,,
1895	June 26	Mellington Hall, Churchstoke, Montgomery	4·83 ,,
1898	Sep. 7	Angerton Hall, Morpeth, Northumberland.	6·70 ,,

These instances are all in Table IV.; we could, from other sources, double the number were it necessary, but we presume that the above will be sufficient; though nothing but their personally measuring it, or finding that their record is spoiled by an overflow, would convince some persons that 4 inches could fall at *their station* in 3 hours.

In Tables V. and VI. we leave the extremes and deal with the averages of the whole 2,691 returns. From these we find that as usual the average M was about $1\frac{1}{2}$ inches, and that the values for 1898 were very close to the average, but the percentages were above the average; which, of course, implies that the yearly totals of R were below the average, *i.e.*, that the year had less than the usual rainfall by about 15 per cent. We shall see later on whether this agrees with the result of a totally different mode of ascertaining the facts.

TABLE I.—*Maximum Falls in* 1898.

Date.	Div.	Station.	Depth.	Per Cent.	Total.
Sep. 7 ...	X.	Morpeth, Angerton Hall ...	6·70in.	18·1	36·97 in.
Nov. 1 ...	,,	Seathwaite	5·20 ,,	3·4	151·00 ,,
,, ,, ...	,,	Rosthwaite	5·12 ,,	4·4	115·48 ,,
,, ,, ...	XV.	Conaglen	5·09 ,,	4·3	118·11 ,,
Jan. 29 ...	XI.	Bl. Ffestiniog (New W. Qry.)	5·00 ,,	3·9	126·92 ,,
Nov. 1 ...	X.	Patterdale, Greenside Mine.	4·85 ,,	4·6	100·51 ,,
,, ,, ...	,,	Ambleside, Skelwith Bridge	4·70 ,,	4·7	99·66 ,,
,, ,, ...	,,	Borrowdale, Grange	4·65 ,,	4·9	95·09 ,,
,, 2 ...	XVIII.	Glenquoich	4·50 ,,	3·2	141·84 ,,
,, 1 ...	X.	Ambleside, Gale House.....	4·40 ,,	5·2	85·18 ,,
,, ,, ...	,,	Patterdale Hall	4·07 ,,	4·8	84·85 ,,
,, ,, ...	,,	Ambleside, Lesketh Howe..	4·05 ,,	4·5	89·64 ,,
,, ,, ...	,,	Grasmere, Pavement End...	4·05 ,,	4·0	101·95 ,,
,, ,, ...	,,	Dungeon Ghyll	3·85 ,,	2·9	130·78 ,,
,, 2 ...	XI.	Treherbert, Tyn-y-waun ...	3·85 ,,	4·7	82·01 ,,
Dec. 26 ...	,,	Nanthir Res. [Aberdare] ...	3·75 ,,	7·1	53·16 ,,

TABLE III.—*Maximum Percentages in* 1898.

Date.	Div.	Station.	Per Cent.	Fall.	Total.
Sept. 7 ...	X.	Morpeth, Angerton Hall ...	18·1	6·70 in.	36·97 in.
July 22 ...	IX.	Doncaster, Wadworth Hall.	13·9	3·18 ,,	22·89 ,,
June 9 ..	IV.	Saxlingham Nethergate.....	12·4	2·85 ,,	23·02 ,,
July 22 ...	IX.	Doncaster, Firsby	12·1	2·89 ,,	23·87 ,,
Oct. 17 ...	V.	Bideford, St. Helens Northam	11·7	2·94 ,,	25·19 ,,
July 22 ...	IX.	Tickhill.....	11·7	2·55 ,,	21·82 ,,
Oct. 17 ...	V.	Instow	11·3	3·21 ,,	28·30 ,,
July 22 ...	VII.	Hesley Hall [Tickhill]	11·2	2·15 ,,	19·20 ,,
,, ,,	IX.	Rotherham, Thrybergh	10·7	2·22 ,,	20·71 ,,
Oct. 17 ...	X	Rothbury, Cragside	10·5	3·25 ,,	30·95 ,,
July 22 ...	IX.	Tickhill, Sandbeck Park ...	10·5	2·29 ,,	21·91 ,,
Feb. 21 ...	V.	Bere Regis, Bloxworth Ho..	10·1	2·61 ,,	25·73 ,,
Oct. 17 ...	,,	Bideford, Gammaton W.W.	10·0	3·35 ,,	33·54 ,,
,, ,,	XII.	Kelso, Springwood Park ...	10·0	1·98 ,,	19·77 ,,
July 22 ...	IX.	Doncaster, Kirk Bramwith...	9·9	1·96 ,,	19·82 ,,
Oct. 17 ...	XVI.	Broughty Ferry, Douglas Ho.	9·8	2·60 ,,	26·49 ,,

TABLE II.—*Comparison of Maximum Falls with those in previous years.*

	MEAN.			ABSOLUTE.			
Years.	Depth.	Per Cent.	Mean total fall at these stations.	Depth.	Per Cent.	Station.	Division.
	in.		in.	in.			
1865 ...	3·67	6·4	61·8	6·41	5·5	Seathwaite.....	X.
1866 ...	3·40	—4·4	86·2	6·38	3·6	,, ...	,,
1867 ...	3·17	9·0	— 42·5	4·78	17·7	Hartlip	II.
1868 ...	3·32	6·1	65·9	5·60	4·8	Camusinas.....	XV.
1869 ...	3·68	5·0	77·7	6·70	4·5	Seathwaite.....	X.
1870 ...	3·20	7·5	43·8	6·00	17·1	Tongue	XIX.
1871 ...	3·08	5·7	61·6	4·24	9·6	Melbury.....	V.
1872 ...	4·10	6·6	73·1	5·82	3·2	Seathwaite.....	X.
1873 ...	2·97	6·2	60·7	4·20	—2·9	,, ...	,,
1874 ...	3·96	4·6	86·5	5·32	4·4	Bryn Gwynant	XI.
1875 ...	4·52	7·8	63·9	5·33	9·7	Newport W. W.	,,
1876 ...	3·37	5·9	57·6	4·50	5·5	Foffany	XXIII.
1877 ...	3·77	4·6	93·4	4·98	5·3	Skye, Portree..	XVIII.
1878 ...	3·57	7·4	57·2	4·24	8·6	Springfield ...	XI.
1879 ...	3·66	9·5	50·4	—4·05	4·1	Little Langdale	X.
1880 ...	3·50	7·7	51·1	4·75	3·9	Seathwaite.....	,,
1881 ...	3·65	4·9	83·1	5·42	4·7	Sligachan	XVIII.
1882 ...	3·28	4·5	84·3	4·51	3·0	Seathwaite ...	X.
1883 ...	3·69	6·1	72·4	5·27	9·0	Glen-na-Smoel	XXI.
1884 ...	3·45	4·7	80·7	6·78	5·0	Seathwaite ...	X.
1885 ...	3·45	5·8	68·2	4·62	3·2	,, ...	,,
1886 ...	3·77	7·7	58·7	4·20	9·9	Little Bredy ...	V.
1887 ...	—2·83	6·1	56·8	4·93	13·0	Galway Q. Coll.	XXII.
1888 ...	4·20	5·9	77·0	5·20	5·4	Wythburn Vic.	X.
1889 ...	3·89	+9·9	49·2	4·45	16·5	N. Ockendon..	IV.
1890 ..	5·01	6·9	95·1	7·29	3·7	Ben Nevis Obs.	XVIII.
1891 ...	4·38	4·7	+108·4	6·14	4·2	Seathwaite.....	X.
1892 ...	4·47	7·9	70·1	5·80	4·5	,, ...	,,
1893 ...	3·84	5·8	89·6	4·96	3·5	,, ...	,,
1894 ...	3·95	5·7	83·0	7·74	5·1	Ben Nevis Obs.	XVIII.
1895 ...	3·80	7·2	62·2	4·83	16·1	Mellington Hall	XI.
1896 ...	3·31	5·9	67·5	4·59	3·7	Seathwaite ...	X.
1897 ...	+5·24	5·3	95·1	+8·03	5·6	,, ...	,,
Mean ...	3·73	6·3	70·8	5·40	6·9	.....	...
1898 ...	4·61	5·3	100·8	6·70	+18·1	Angerton Hall	X.
Diff. ...	+·88	— 1·0	+30·0	+1·30	+11·2	.....	...

TABLE IV.—*Comparison of Max. Percentages with those in previous years.*

	MEAN.			ABSOLUTE.			
Years.	Per Cent.	Depth.	Mean total fall at these Stations.	Per Cent.	Depth.	Station.	Division.
		in.	in.		in.		
1865 ...	9·9	2·62	28·4	13·0	4·40	Fleckney.....	VII.
1866 ...	8·1	2·31	29·3	10·0	—2·48	Burton	VI.
1867 ...	11·0	2·85	25·3	17·7	4·78	Hartlip	II.
1868 ...	8·6	2·55	30·1	11·0	4·00	Tongue	XIX.
1869 ...	7·9	2·17	27·9	10·0	3·40	Tillydesk	XVII.
1870 ...	10·0	2·34	22·9	17·1	6·00	Tongue	XIX.
1871 ...	9·0	2·43	26·8	11·5	3·62	Warter	IX.
1872 ...	8·1	3·43	+42·5	10·0	3·70	Hillington Hall	IV.
1873 ...	9·7	2·39	24·7	11·8	2·77	Oscott	VI.
1874 ...	9·2	2·16	23·7	11·9	2·50	Welwyn.. [Hall	III.
1875 ...	10·2	+3·76	37·5	13·2	3·95	Letheringsett ...	IV.
1876 ...	— 7·4	2·49	33·7	— 8·5	3·70	Cragside	X.
1877 ...	8·2	2·73	33·1	9·3	3·09	Wellington.....	VI.
1878 ...	10·2	3·05	30·0	11·8	3·90	Haverstock Hill	I.
1879 ...	10·9	3·31	30·5	12·3	3·80	Cambridge M. V.	III.
1880 ...	9·5	3·06	32·3	11·7	3·34	Marmont Pr. L.	,,
1881 ...	8·1	2·42	30·3	10·6	3·20	Aboyne Castle..	XVII.
1882 ...	7·7	2·54	33·4	9·1	2·80	Bothalhaugh ...	X.
1883 ...	9·7	3·00	31·1	12·3	4·31	Skegness.....	VII.
1884 ...	11·7	2·33	—20·0	13·8	2·66	Diss(Thelveton)	IV.
1885 ...	8·9	2·71	30·7	9·6	2·62	Beccles, Ellough	,,
1886 ...	10·1	3·32	32·7	11·5	4·10	Methley Park...	IX.
1887 ...	9·5	—2·11	21·9	13·0	4·93	Galway, Q. Coll.	XXII.
1888 ...	10·9	3·05	28·3	11·8	3·24	Rothamstead ...	III.
1889 ...	12·7	3·51	27·8	16·5	4·45	N. Ockendon...	IV.
1890 ...	+14·4	3·60	25·1	17·2	3·68	Slough, Langley	III.
1891 ...	9·7	2·67	27·6	14·4	4·00	Sunnyside Aslm	XVI.
1892 ...	12·3	3·37	27·4	15·0	4·27	Tyntesfield	V.
1893 ...	12·0	2·81	23·4	16·2	4·48	Cranmer Hall...	IV.
1894 ...	9·0	2·54	28·3	11·1	3·56	Sidcup.....	II.
1895 ...	10·0	2·87	28·8	16·1	4·83	Mellington Hall	XI.
1896 ...	9·5	2·50	26·3	11·1	2·78	Barkby	VII.
1897 ...	10·8	2·48	23·2	14·1	2·40	Chatteris, H. L.	III.
Mean...	9·8	2·77	28·6	12·6	3·69	.....	...
1898 ...	11·5	2·92	25·0	+18·1	+6·70	Angerton Hall..	X.
Diff. ...	+1·7	+ ·15	— 3·6	+ 5·5	+3·01	.....	...

A little apparent confusion in this table had better be mentioned. In it, and in Table II., and in some others the + and — are placed against the highest and the lowest values, and naturally the same symbol has to be used at the foot for the differences. The Angerton fall was so large that the two + marks come together at the foot of the table, and, without this explanation, might be misunderstood.

TABLE V.—*Comparison of the Mean of all the Maximum Falls of 1898 with similar data for previous years.*

Years.	Number of Returns.	Mean Percentage.	Mean Amount.	Mean Total Fall in year.	Ratio taking 34=100.	Total Fall being assumed =34in. Mean Max. =
			in.	in.		
1865.....	481	5·1	1·70	33	97	5·0 per cent
1866.....	590	3·7	1·48	40	118	4·4 ,,
1867.....	584	4·6	1·44	31	91	4·2 ,,
1868.....	676	4·3	1·43	33	97	4·2 ,,
1869.....	637	4·2	1·42	34	100	4·2 ,,
1870.....	687	4·9	1·30	27	79	3·8 ,,
1871.....	752	4·9	1·49	30	88	4·4 ,,
1872.....	743	— 3·4	1·59	+ 47	+ 138	4·7 ,,
1873.....	809	4·6	1·35	29	85	4·0 ,,
1874.....	1010	4·4	1·41	32	94	4·1 ,,
1875.....	1081	5·0	+1·83	37	109	+5·4 ,,
1876.....	1112	3·9	1·49	38	112	4·4 ,,
1877.....	1180	3·8	1·56	41	121	4·6 ,,
1878.....	1186	4·3	1·49	35	103	4·4 ,,
1879.....	978	4·2	1·52	36	106	4·5 ,,
1880.....	1117	4·8	1·72	36	106	5·1 ,,
1881.....	1194	4·1	1·45	35	103	4·3 ,,
1882.....	1463	3·6	1·42	39	115	4·2 ,,
1883.....	1505	4·0	1·41	35	103	4·1 ,,
1884.....	1691	4·8	1·32	28	82	3·9 ,,
1885.....	1801	4·5	1·41	31	91	4·2 ,,
1886.....	1718	4·6	1·64	35	103	4·8 ,,
1887.....	1921	4·5	—1·14	— 25	— 74	—3·4 ,,
1888.....	1974	4·4	1·41	32	94	4·1 ,,
1889.....	1812	4·8	1·41	29	85	4·1 ,,
1890.....	2081	5·0	1·46	29	85	4·3 ,,
1891.....	2218	4·1	1·47	35	103	4·3 ,,
1892.....	2231	+ 5·4	1·62	30	88	4·8 ,,
1893.....	2267	4·8	1·30	27	79	3·8 ,,
1894.....	2321	4·2	1·46	35	103	4·3 ,,
1895.....	2423	4·5	1·37	30	88	4·0 ,,
1896.....	2465	4·4	1·33	30	88	3·9 ,,
1897.....	2598	4·1	1·36	33	97	4·0 ,,
Mean ...	1434	4·4	1·46	33	98	4·3 ,,
1898.....	2691	5·0	1·42	28	82	4·2 ,,
Diff....	+1257	+ ·6	— ·04	— 5	—16	— ·1 ,,

TABLE VI.—*Max. Falls in each year exceeding* 2·00 *in., and exceeding* 3·00 *in.*

Year.	Total number of records.	Falls of 2·00 in. or more. Number.	Falls of 2·00 in. or more. Per cent. of total No.	Falls of 3·00 in. or more Number.	Falls of 3·00 in. or more Per cent. of total No.
1882	1463	140	9·6	8	0·6
3	1505	170	11·3	23	1·5
4	1691	138	8·2	9	0·5
5	1801	179	10·0	24	1·3
6	1718	158	9·2	44	2·6
7	1921	52	—2·7	4	—0·2
8	1974	374	18·9	34	1·7
9	1812	170	9·4	24	1·3
1890	2081	345	16·6	54	2·6
1	2218	270	12·2	39	1·8
2	2231	470	+21·1	81	+3·6
3	2267	183	8·1	29	1·3
4	2321	313	13·5	36	1·6
5	2423	249	10·3	31	1·3
6	2465	249	10·1	16	0·6
7	2598	275	10·6	62	2·4
Mean	2031	233	11·4	32	1·6
1898	2691	373	13·9	72	2·7
Diff.	+660	+140	+2·5	+40	+1·1

DROUGHTS IN 1898.

In this section we deal only with droughts which fulfil the generally accepted conditions :—

Absolute Droughts.—Periods of *more than* 14 consecutive days absolutely without measurable R.

Partial Droughts.—Periods of *more than* 28 consecutive days, the aggregate rainfall of which does not exceed 0·01 in. per diem.

The following tables are almost wholly compiled from the same selected stations as in previous years, the inevitable absentees (only two) being replaced by records from the nearest available station, so as to ensure equable distribution over the country.

The following little table is an abstract of those on the three next pages. They both show facts for which we were not prepared, namely, that taking the British Isles as a whole, the droughts in 1898 were almost precisely the average as to intensity and duration. It must be remembered that as regards "Absolute" droughts, a fall of even 0·1 in. is sufficient to end them; but "Partial" droughts may last even through a total of an inch; as in the "Partial" drought in 1893, which lasted at Hailsham, Sussex, for nearly four months, *i.e.*, from March 1st to June 22nd, 114 days with only 1·11 in. of R.

	ABSOLUTE DROUGHTS.				PARTIAL DROUGHTS.			
	No. of Droughts.	Duration.		Stations without one.	No. of Droughts.	Duration.		Stations without one.
		Average.	Greatest.			Average.	Greatest.	
		days.	days.			days.	days.	
1888	17	17	20	35	4	42	50	46
1889	42	21	30	13	38	34	45	15
1890	13	18	20	39	3	30	31	47
1891	26	18	34	28	38	36	49	14
1892	36	16	20	25	17	35	64	33
1893	39	20	44	23	53	51	114	10
1894	52	18	31	10	44	37	62	13
1895	52	19	29	16	47	39	64	19
1896	27	18	26	25	49	40	75	16
1897	20	18	20	31	7	40	61	44
Mean	32	18	27	25	30	38	62	26
1898	31	17	28	27	31	38	77	26
Diff.	−1	−1	+1	+2	+1	0	+15	0

We shall have to consider this subject again when dealing with the monthly rainfall; meanwhile we must give a general survey of the droughts which occurred at the 50 selected stations.

The "Absolute" droughts may be grouped as three: (1) In the Midland Counties, from about January 7th to 30th; (2) In most other parts of England, Wales, the S. of Scotland and the S.E. of Ireland during the first half of July; and (3) Mostly in the centre of England for the first half of September.

The "Partial" droughts were at a few stations in January and February, but at the majority of stations during five or six weeks in July, August and September. Only two are reported from Scotch stations, and not one occurred at any representative station in Ireland.

It will be noticed that in the Observers' notes on the days, months and year the references to drought are more numerous than usual; the reason for this is, we think, two-fold: observers are becoming familiar with the definitions of droughts, and, therefore, record them whenever they occur; and, owing to the dryness of the early part of the year, their attention was especially directed to the subject. On looking over the references, we find that the majority (if not all) of them are indicated by the following tables.

We believe that the inconsistency which appears to exist between the undoubted extreme dryness of the early part of 1898, and of the fact of there being only just the average number and duration of droughts, is due (1) to the fact that, small as was the rainfall, it fell just at such times and in such quantities as to prevent most of the droughts being entitled to claim individual notice, and (2) to the very small number of droughts in Scotland and Ireland.

STATION & COUNTY.	ABSOLUTE DROUGHTS.			PARTIAL DROUGHTS.			
	Began.	Ended.	Lasted.	Began.	Ended.	Lasted.	Amount.
			Days			Days	in.
ENGLAND & WALES.							
London (Camden Square), N.W.. *Middlesex.*	None			Aug. 19	Oct. 8	51	·49
Dorking (Abinger Hall) ... . *Surrey.*	None			Aug. 30	Sept. 28	30	·23
Hythe..... *Kent.*	July 2	July 18	17	Aug. 9	Sept. 26	49	·47
Welwyn (Datchworth Rectory).. *Herts.*	Jan. 13	Jan. 28	16	Jan. 6	Feb. 11	37	·36
	Sept. 1	Sept. 18	18	Aug. 8	Sept. 29	53	·50
Maxey Vic. [Market Deeping] ... *Northampton.*	Jan. 7	Jan. 30	24	Jan. 6	Mar. 23	77	·77
	Aug. 30	Sept. 26	28	Aug. 22	Sept. 28	38	·33
Geldeston [Beccles]..... ..... *Norfolk.*	Jan. 11	Jan. 28	18	Aug. 9	Oct. 10	63	·62
	Aug. 11	Aug. 26	16				
	Aug. 30	Sept. 17	19				
Calne (High Street)..... *Wilts.*	None			June 27	July 27	31	·30
				Aug. 28	Sept. 26	30	·29
Torquay (Cary Green)..... *Devon.*	June 28	July 17	20	June 28	Aug. 4	38	·32
	Aug. 31	Sept. 16	17	Aug. 19	Sept. 27	40	·40
Bideford (Northam Vicarage) ... *Devon.*	July 2	July 19	18	Aug. 19	Sept. 16	29	·28
St. Austell (Trevarna)..... ..... *Cornwall.*	July 4	July 18	15	None			
Ilminster (White Lackington) ... *Somerset.*	July 2	July 17	16	June 26	Aug. 5	41	·31
				Aug. 19	Sept. 16	29	·24
Ross (The Graig) .... *Hereford.*	Jan. 8	Jan. 31	24	Jan. 6	Feb. 11	37	·35
	July 2	July 17	16	Aug. 28	Sept. 28	32	·30
	Aug. 31	Sept. 15	16				
Shifnal (Neachley) ... . *Salop.*	July 5	July 21	17	Aug. 30	Sept. 28	30	·19
Kenilworth (The Spring) ... . *Warwick.*	July 2	July 17	16	Aug. 30	Sept. 28	30	·12
	Aug. 31	Sept. 16	17				
Worksop (Hodsock Priory) ..... *Notts.*	None			Jan. 6	Feb. 27	53	·52
				Aug. 29	Sept. 28	31	·23
Belper (Northfield) .... *Derby.*	July 3	July 18	16	Aug. 30	Sept. 28	30	·22
St. Michael's-on-Wyre ..... *Lancashire.*	None			None			

STATION & COUNTY.	ABSOLUTE DROUGHTS.			PARTIAL DROUGHTS.			
	Began.	Ended.	Lasted.	Began.	Ended.	Lasted.	Amount.
			Days			Days	in.
Knaresboro' (Farnham) ..... *York, W.R.*	July 6	July 21	16	Aug. 28	Sept. 27	31	·26
Driffield (Beverley Road) ..... *York, E.R.*	July 6	July 21	16	Aug. 30	Oct. 10	42	41
Darlington (Hurworth Grange)... *Durham.*	None			Aug. 30	Oct. 13	45	·43
Morpeth (Bothalhaugh Garden)... *Northumberland.*	None			Aug. 31	Oct. 11	42	·41
Pawston [Coldstream]..... *Northumberland.*	None			None			
Whitehaven, Irish Street ..... *Cumberland*	Mar. 18	April 1	15	June 24	July 26	33	·32
Chepstow (Shirenewton Hall) .. *Monmouth*	None			None			
Haverfordwest (High Street) ... *Pembroke.*	July 2	July 20	19	None			
Churchstoke (Mellington Hall)... *Montgomery.*	July 4	July 20	17	July 4	Aug. 2	30	·29
Halkyn .... *Flint.*	None			None			
Lligwy ..... *Anglesea.*	None			July 2	Aug. 1	31	·28
SCOTLAND.							
Garliestown (Galloway House)... *Wigton.*	None			July 4	Aug. 1	29	·15
Cargen [Dumfries] ..... *Kirkcudbright.*	July 3	July 17	15	July 3	Aug. 1	30	·24
Melrose Asylum .... *Roxburgh.*	None			None			
Edinburgh (Blacket Place)..... *Edinburgh.*	None			None			
Maybole (Sauchrie)..... *Ayr.*	None			None			
Buchlyvie (The Manse) ..... *Stirling.*	None			None			

STATION & COUNTY.	ABSOLUTE DROUGHTS.			PARTIAL DROUGHTS.			
	Began.	Ended.	Lasted.	Began.	Ended.	Lasted.	Amount.
			Days			Days	in.
Strontian (Laudale) .... *Argyll.*	None			None			
Islay (Ardbeg) ..... *Argyll.*	None			None			
Kirriemuir (Lintrathen)... ..... *Forfar.*	None			None			
Cromar (Logie Coldstone Manse) *Aberdeen.*	None			None			
Alness (Ardross Castle) ..... *Ross.*	None			None			
Golspie (Dunrobin Castle) ..... *Sutherland.*	None			None			
IRELAND.							
Dunmanway (Coolkelure) ..... *Cork.*	None			None			
Killarney (Woodlawn) ..... *Kerry.*	None			None			
Clonmel (Bruce Villa) ..... *Tipperary.*	July 2	July 17	16	None			
Enniscorthy (Ballyhyland)..... *Wexford.*	July 2	July 17	16	None			
Bray (Fassaroe) ..... *Wicklow.*	July 2	July 18	17	None			
Athlone (Twyford) ..... *Westmeath.*	July 2	July 16	15	None			
Ballinasloe..... ..... *Galway.*	None			None			
Collooney (Markree Observatory) *Sligo.*	None			None			
Belfast (Springfield) ..... *Antrim.*	None			None			
Stewartstown (The Square) ..... *Tyrone.*	July 1	July 16	16	None			

MONTHLY RAINFALL OF 1898.

On the following seven pages will be found the total rainfall for each month, and for the year, at 232 stations which have been selected as fulfilling as nearly as possible the following conditions :—

I. Equable geographical representation of all parts of the British Isles. That is to say, *e.g.*, that Rossshire has as many stations for each 100 square miles as has Kent.

II. Records are taken by preference from gauges read daily, and of which the orifice is at the standard height of 1 foot above the ground.

III. Stations are retained of which the records have been given in previous years, because that facilitates comparison—*i.e.*, changes are made only when unavoidable.

Large as is the total number of our correspondents, their unequally dense concentration in some districts, and paucity in others, makes it difficult to fulfil all the above conditions, but inspection of the tables will show how nearly perfection has been secured.

However, we need something besides a record of the actual fall in 1898, we require to know what relation the fall in each month all over the country bore to the average for that month ; and for such a comparison to be satisfactory, it must refer to a uniform average at all places, and the handiest available average is that of the years 1880–89. Some of the stations, desirable on geographical grounds and therefore inserted in the following tables, were not at work in 1880–89, and therefore we have to make a fresh selection of stations whose records were perfect for those ten years, and also throughout 1898, and from them we ascertain the facts we need.

The information is given in a very compact form by the sheet of small maps inserted between pages [144] and [145], on which over the site of each station will be found, a round dot if the rainfall for that month was within an inch of the average, a + if it was an inch or more above it, and a — if it was an inch or more below it.

Then on pages [145] to [149], we give a summary of each month, based on the above, on the tables given in the *Meteorological Magazine*, and on the remarks of the observers.

MONTHLY RAINFALL AT 232 STATIONS IN THE BRITISH ISLES DURING 1898.

ENGLAND.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
I.	Middlesex	London (Camden Square) ...	·73	1·08	1·46	1·01	2·26	1·11	1·09	1·18	·33	2·96	1·94	2·54	17·69
,,	,, ...	Harrow	·84	1·17	1·24	1·27	2·42	1·55	·57	1·21	·53	2·90	2·04	2·26	18·00
II.	Surrey	Guildford (Epsom Road).....	·74	1·56	1·49	1·23	3·47	1·92	·44	1·01	1·79	3·76	3·73	2·95	24 09
,,	Kent	Tenterden .....*Snowdon*	·69	1·08	2·31	1·22	3·40	2·11	·25	1·66	·77	2·54	2·28	2·13	20·44
,,	,, ...	Hythe	1·08	1·11	2·63	·86	4·02	1·74	1·22	1·78	·44	2·46	2·36	1·80	21·50
,,	,, ...	Sevenoaks (Riverhead Vic.)	·48	1·58	1·70	·99	3·06	1·92	·46	1·14	·48	2·89	2·85	2·25	19·80
,,	,, ...	Ospringe (Lorenden)	·47	1·28	2·14	1·04	4·11	3·15	·65	1·66	·30	1·86	3·30	1·66	21·62
,,	Sussex	Arundel (Patching)	·93	1·50	·96	1·01	2·93	1·59	·53	1·51	1·15	4·54	4·24	2·97	23·86
,,	,, ...	Maresfield (Forest Lodge) ..	·81	1·29	1·20	·88	3·56	1·27	·38	1·16	·58	4·05	4·01	2·97	22·16
,,	Hants	I. of Wight (Sandown).....	·68	2·96	·53	2·51	4·38	2·28	·18	2·70	1·34	4·99	5·73	4·43	32·71
,,	,, ...	Bps. Waltham (Swanmore Ho.)	·76	1·71	·41	1·27	2·76	2·06	·41	1·62	1·48	4·86	3·69	4·00	25·03
,,	,, ...	Basingstoke(Sherborne S.J.)	·60	1·32	1·02	1·79	2·85	1·33	·81	1·05	1·65	4·25	3·60	2·99	23·26
,,	Berks	Newbury (Welford Park)*o.g.*	·76	2·12	1·10	2·25	3·62	1·77	·63	·96	·84	5·34	3·73	2 94	26·06
III.	Herts	Hertford (Bayfordbury).....	·59	·89	1·21	1·70	2·36	1·32	1·30	1·34	·33	2·97	1·90	2·43	18·34
,,	,, ...	Royston	·76	·96	1·55	2·03	2·81	2·13	1·22	1·37	·24	2·73	2·40	3·05	21·25
,,	Bucks	Buckingham (Adstock)	·77	·94	1·14	1·57	3·63	1·14	·83	2·06	·47	3·13	1·81	3·11	20·60
,,	Oxford	Henley (Northfield House)..	·92	1·60	·88	1·66	2·22	1·25	·28	·90	·95	2·95	2·77	2·52	18·90
,,	,, ...	Oxford (Magdalen Coll.) ...	·52	1·21	·74	1·19	2·38	1·44	·47	1·61	·34	4·33	1·94	2·18	18·35
,,	Northampton ...	Wellingborough(Swanspool)	·95	1·10	1·53	1·67	3·03	·99	·95	2·05	·42	2·44	1·50	2·22	18·85
,,	Bedford	Bedford (The Grove)	·73	·66	1·09	1·63	2·94	1·72	1·13	2·21	·27	2·08	1·55	2·17	18·18
,,	Cambridge	Ely (Stretham)	·96	·56	1·04	1·01	3·08	2·35	1·47	2·11	·23	1·96	1·12	2·06	17·95
,,	,, ...	Wisbech (Bank House).....	1·29	·78	1·43	1·21	2·71	1·82	1·17	2·92	·20	2·78	1·63	1·84	19·78
IV.	Essex	Loughton (High Beech) ...	·75	·97	·97	1·29	2·35	1·18	·86	1·15	·39	3.21	1·46	2·25	16·83
,,	,, ...	Chelmsford (High Street)...	·81	·83	1·45	1·26	1·98	2·08	·77	·97	·30	2·54	2·03	2·25	17·27
,,	,, ...	Braintree (Bocking Place)..	·77	·87	1·62	1·39	3·08	1·72	1·23	1·18	·33	2·11	1·53	2·34	18·17
,,	Suffolk	Ipswich (Bishop's Hill).....	·72	·80	1·90	1·27	2·50	2·83	1·58	1·10	·30	2·08	2·90	2·57	20·55
,,	,, ...	Haverhill (Great Thurlow).	1·07	·73	1·58	1·35	2·42	3·30	1·07	2·05	·17	2·20	1·73	2·48	20·15
,,	,, ...	Aldborough (Aldringham Ho.)	·97	·79	1·22	1·15	2·27	2·13	1·89	1·43	·27	2·01	2·51	2·34	18·98
,,	Norfolk	Geldeston [Beccles]	·93	1·01	2·03	1·16	3·24	3·01	1·54	1·35	·28	2·48	2·89	2·16	22·08
,,	,, ...	Swaffham.....	1·26	·74	1·92	1·14	3·15	2·57	1·22	2·12	·26	2·38	2·19	2·15	21·10
,,	,, ...	Holt (Field Dalling)...	·93	1·22	1·96	1·28	2·65	2·71	·97	1·36	·10	2·04	2·02	1·73	18·97

ENGLAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.	Total.
V.	Wilts	Salisbury (Alderbury)	·39	1·65	·69	1·47	4·68	·78	·44	1·35	1·88	3·77	3·71	2·93	23·74
,,	,, ...	Trowbridge (Rodney Ho.).	·44	1·57	·61	1·75	2·75	1·74	·40	2·16	·77	4·03	2·94	2·86	22·02
,,	,, ...	Marlborough (Mildenhall).	·47	1·74	·79	2·46	3·28	1·99	·38	1·05	1·35	4·09	4·52	3·07	25·19
,,	Dorset	Beaminster Vic.	·73	2·45	1·60	1·70	3·75	1·05	·14	1·32	1·93	5·49	4·77	4·55	29·48
,,	,, ...	Wimborne (Chalbury).....	·74	1·31	·56	2·07	3·10	·85	·45	1·35	1·33	4·67	4·29	3·70	24·42
,,	,, ...	Hazelbury Bryan Rectory.	·83	2·98	1·09	1·99	4·87	1·04	·40	1·43	1·47	5·35	5·50	5·06	31·91
,,	Devon	Torquay (Watcombe Park)	·87	2·35	1·77	1·32	3·44	1·15	·34	2·05	·96	6·17	3·94	4·22	28·58
,,	,, ...	Walkhampton (Lowery) ...	1·80	3·36	2·06	2·99	4·42	3·22	·78	5·03	2·74	8·30	5·05	7·93	47·68
,,	,, ...	Exeter (Manston Terrace)	·65	2·01	1·92	1·81	3·35	1·04	·41	2·49	·66	5·46	3·23	2·67	25·70
,,	,, ...	Cullompton	1·10	2·70	2·13	2·07	4·18	1·75	·23	1·91	1·39	5·32	4·11	3·00	29·89
,,	,, ...	South Molton (East Street)	1·59	4·00	1·31	1·81	4·16	2·64	·60	3·84	1·92	6·21	5·05	5·33	38·46
,,	Cornwall	Penzance (Penlee)	1·32	2·41	1·82	2·37	3·86	1·89	·49	2·22	1·20	6·68	5·51	5·26	35·03
,,	,, ...	St. Agnes	1·32	1·78	1·61	2·40	4·06	1·83	·69	1·99	·76	6·89	3·67	4·68	31·68
,,	,, ...	Bude	1·25	2·50	1·06	1·23	4·67	1·75	·57	3·53	1·04	7·38	1·72	4·82	31·52
,,	Somerset	Ilminster (White Lackington)	·63	2·21	1·29	2·19	5·39	1·75	·23	1·31	1·50	4·85	5·18	3·30	29·83
,,	,, ...	Glastonbury (Street)	1·29	1·74	·56	1·34	3·32	2·86	·53	1·45	1·15	4·48	2·78	2·65	24·15
,,	,, ...	Minehead	·56	1·73	1·51	1·52	4·34	·99	·07	2·71	1·01	6·40	4·09	3·84	28·77
VI.	Gloucester.....	Clifton (Pembroke Road)...	1·03	1·80	·95	2·23	3·40	1·37	·66	3·46	1·30	5·85	3·16	4·49	29·70
,,	,, ...	Stroud (Upfield)	·32	1·36	·62	2·24	3·32	·98	·77	2·97	·78	4·50	2·61	3·20	23·67
,,	,, ...	Fairford (Hatherop Rec.)...	·57	1·61	·65	1·94	3·54	1·42	·70	1·73	·94	3·61	2·83	3·05	22·59
,,	,, ...	Moreton-in-Marsh(Longboro')	·78	1·63	·77	2·09	5·15	1·10	1·02	4·59	·93	3·44	3·61	3·06	28·17
,,	Hereford	Ross (The Graig)	·28	1·19	·60	1·76	3·85	·84	·55	2·86	·46	4·46	1·99	2·58	21·42
,,	,, ...	Leominster (Farm)	·30	1·50	·70	1·73	3·31	1·16	·93	1·54	1·16	3·96	1·77	2·56	20·62
,,	Salop	Ch. Stretton (Woolstaston)	·69	2·26	·68	1·86	5·41	1·37	·80	2·88	·60	6·09	1·53	2·46	26·63
,,	,, ...	Much Wenlock(Willey Pk.)	·51	1·70	·52	2·10	3·26	1·25	·96	2·49	·72	3·78	1·93	2·68	21·90
,,	,, ...	Ellesmere (Oteley)	·75	1·63	·96	1·66	4·17	2·40	·87	4·90	·92	5·98	2·32	3·21	29·77
,,	Stafford	Penkridge (Rodbaston) ...	1·30	1·53	1·47	1·95	3·41	1·45	1·34	2·50	·54	1·96	1·75	2·36	21·56
,,	,, ...	Burton (Shobnall)	1·28	1·13	·81	1·53	2·85	1·44	1·09	2·21	·34	2·91	1·99	2·18	19·76
,,	,, ...	Etruria	1·80	2·00	1·20	2·46	4·42	3·36	1·50	4·34	1·15	2·82	2·61	2·85	30·51
,,	Worcester	Malvern (Madresfield Rec.)	·59	1·38	·51	1·61	3·40	·98	1·04	2·85	·65	3·44	1·94	2·36	20·75
,,	,, ...	Stourbridge (Pedmore) ...	·81	1·65	·48	1·74	3·93	·98	1·28	2·05	·73	3·42	2·62	2·39	22·08
,,	Warwick	Leamington (The Parade).	·78	1·01	·77	1·55	3·27	·83	·98	3·12	·51	2·52	1·78	1·57	18·69
,,	,, ...	Bedworth Cemetery.....	·91	1·25	·78	1·99	2·96	·88	1·17	3·31	·66	2·52	2·93	2·16	21·52
VII.	Leicester	Loughboro'(Nan Pantan Res)	·97	1·19	1·12	2·11	2·72	·97	·89	2·96	·65	3·10	2·47	2·04	21·19
,,	,, ...	Belvoir Castle ....*n.g.*	·78	·61	1·46	1·89	2·71	1·07	·97	2·67	·54	2·55	2·39	1·99	19·63

ENGLAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
VII.	Rutland.....	Market Overton	·72	·68	1·61	2·22	2·86	·98	1·00	3·44	·71	3·29	2·21	1·90	21·62
,,	Lincoln	Sleaford (Rauceby Hall) ...	·94	·49	1·46	2·66	2·32	1·83	·80	3·00	·51	3·22	2·10	1·72	21·05
,,	,, ...	Market Rasen	1·02	1·09	1·88	2·92	1·80	1·17	·56	2·83	·45	2·42	2·14	2·29	20·57
,,	,, ...	West Halton.....	·56	1·27	1·32	3·02	1·71	1·48	·25	3·73	·41	2·94	2·78	2·37	21·84
,,	Notts	Ollerton(ThoresbyGardens)	·38	·76	2·05	2·44	1·94	1·12	1·77	4·00	·64	3·80	2·79	1·59	23·28
,,	Derby.....	Darley Hall	1·24	2·33	1·69	2·76	2·49	1·60	1·48	3·33	·82	3·97	4·39	3·78	29·88
VIII.	Cheshire.....	Congleton(BuglawtonVic.)	1·72	2·33	·85	1·83	4·26	2·91	·95	4·92	·64	2·40	1·84	3·23	27·88
,,	Lancashire.....	Manchester (Withington).	1·65	2·07	1·17	1·85	3·07	3·14	·70	5·74	·58	3·73	1·82	3·59	29·11
,,	,, ...	Ormskirk (Rufford).....	2·71	2·15	·99	2·00	3·60	2·60	·53	5·71	1·22	3·78	3·57	2·98	31·84
,,	,, ...	Burnley (Swinden, Lower)	3·66	3·62	2·59	2·91	3·52	3·39	1·14	4·83	1·53	5·26	3·22	5·65	41·32
,,	,, ...	St. Michael's-on-Wyre ...	3·31	2·62	·74	2·17	3·25	1·96	·57	5·42	1·31	3·41	3·85	3·95	32·56
,,	,, ...	Cartmel (Pit Farm).....	4·32	3·53	1·56	3·56	3·51	3·81	·78	8·37	2·19	5·89	5·59	5·28	48·39
IX.	York, W.R.	Rotherham (Moorgate Grove	·57	·93	1·32	2·38	2·53	1·25	2·40	3·50	·37	2·85	2·21	2·27	22·58
,,	,, ...	Huddersfield (Dalton).....	2·11	4·14	1·87	3·53	3·96	3·44	1·37	4·33	·36	5·85	3·34	5·09	39·39
,,	,, ...	South Milford Rectory ...	·56	1·25	·99	2·11	1·85	1·85	1·35	3·65	·73	3·13	2·27	1·99	21·73
,,	,, ...	Malham Tarn ..... *old g.*	5·63	6·56	3·91	4·71	3·24	5·21	1·87	7·30	2·77	6·10	4·09	7·34	58·73
,,	,, ...	Ripon (Mickley)	·85	1·33	1·03	2·78	2·42	2·40	·55	2·69	·66	4·63	2·95	2·65	24·94
,,	York, E.R.	Patrington.....	·69	1·13	1·65	2·27	1·63	1·85	·85	3·71	·15	2·65	1·83	1·78	20·19
,,	,, ...	Pocklington (Warter).....	·90	1·68	2·25	3·32	2·31	2·08	·59	3·90	·65	4·84	3·13	2·81	28·46
,,	,, ...	Lowthorpe (The Elms) ...	·71	1·35	2·02	3·34	2·74	2·78	·87	3·15	·33	4·06	3·15	2·44	26·94
,,	York, N.R.	Thirsk (Sowerby).....	·42	1·10	1·36	2·67	1·39	2·02	·71	2·35	·57	2·19	3·12	1·41	19·31
,,	,, ...	Whitby (Royal Crescent)...	·51	1·02	2·08	2·66	3·88	1·46	·57	1·74	·05	3·99	3·61	2·10	23·67
,,	,, ...	Lockwood Beck	·95	2·01	3·19	2·61	2·98	1·59	1·59	2·51	·18	4·89	3·72	1·46	27·68
X.	Durham.....	Darlington(Hurworth Grange)	·89	1·27	1·59	2·16	1·81	2·29	·87	2·06	·26	3·04	2·56	1·61	20·41
,,	,, ...	Hartlepool(HurworthBurn)	1·01	1·05	2·50	2·19	2·27	1·80	·37	2·05	·80	4·81	2·23	1·94	23·02
,,	,, ...	Wolsingham	1·49	2·01	2·72	2·86	1·71	1·42	·74	2·40	·54	6·78	2·81	3·15	28·63
,,	Northumberland	Haltwhistle(UnthankHall)	2·36	3·39	1·51	3·63	2·70	2·36	1·56	4·45	·90	6·72	3·40	4·58	37·56
,,	,, ...	Morpeth (Bothalhaugh Lawn)	·86	·95	1·27	2·63	2·32	1·98	·92	2·06	·30	4·46	3·08	1·61	22·44
,,	,, ...	Alwinton (Biddleston) ...	·84	1·74	2·80	3·29	1·93	1·80	1·63	4·01	1·12	6·53	3·77	2·77	32·23
,,	,, ...	Howick Hall.....	·61	1·27	1·39	3·15	1·97	·90	·65	1·71	·53	4·01	2·72	1·67	20·58
,,	Cumberland	Borrowdale (Seathwaite)...	16·06	16·56	6·63	11·21	6·93	8·50	3·70	19·63	11·18	10·53	16·86	24·74	152·53
,,	,, ...	Brampton (Denton House)	2·12	3·36	1·03	4·28	2·67	3·17	2·59	6·37	1·68	5·52	2·74	4·59	40·12
,,	Westmoreland ...	Kendal (Ivy Garth)	6·06	5·50	1·38	4·70	2·67	3·10	·80	8·95	2·05	5·04	5·27	7·31	52·83
,,	,, ...	Appleby (Ormside)	1·99	3·05	·71	2·68	1·88	2·01	1·20	3·09	·62	3·29	2·32	4·16	27·00
,,	,, ...	Lowther Castle.....	2·34	3·98	1·20	3·29	2·30	2·32	1·46	4·33	1·10	3·02	4·11	5·84	35·29

MONMOUTH, WALES AND THE ISLANDS.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XI.	Monmouth.....	Chepstow (Shirenewton Hall)	1·17	1·68	·97	2·18	4·03	1·78	1·08	3·93	2·41	9·01	4·41	5·05	37·70
,,	,, ...	Abergavenny(Larchfield)..	·21	1·29	·78	2·86	4·31	1·41	·43	2·19	1·07	5·71	3·33	4·40	27·99
,,	Glamorgan.....	Cardiff Castle	1·42	1·83	1·37	1·49	3·27	1·78	·68	3·47	2·26	6·99	5·08	4·87	34·51
,,	,, ...	Neath (Fairy Land).....	2·93	2·82	1·57	2·48	3·75	3·30	1·67	5·87	2·18	7·12	4·26	6·58	44·53
,,	Carmarthen	Llanelly(Old Market Place)	2·35	2·15	1·20	2·59	3·14	2·63	1·25	3·92	1·35	8·11	3·97	5·32	37·98
,,	,, ...	Llandovery	4·18	3·69	2·30	4·26	4·06	3·15	1·10	6·10	1·63	5·85	4·28	6·94	47·54
,,	Pembroke	St. David's	3·44	1·29	1·01	2·19	4·64	1·69	·95	2·54	1·63	5·22	6·13	4·79	35·52
,,	Cardigan	Aberystwith(NorthParade)	4·55	2·33	1·20	2·22	3·02	1·94	2·39	6·13	1·62	4·61	3·53	5·62	39·16
,,	Brecknock.....	Brecknock (Cantreff Rec.)	·99	3·64	1·33	3·35	4·70	2·45	·93	3·98	1·19	7·12	3·97	7·82	41·47
,,	,, ...	Newbridge (Llysdinam) ...	2·43	3·26	1·63	2·75	3·02	2·82	1·32	3·74	1·09	5·76	2·83	5·09	35·74
,,	Radnor	Rhayader (Nantgwilt) *o.g.*	3·31	4·80	2·47	4·23	4·82	4·15	1·04	5·07	1·84	8·55	5·22	8·32	53·82
,,	Montgomery.....	Churchstoke(MellingtonHall)	·69	2·52	·77	2·03	4·13	1·16	1·08	2·59	·96	5·86	2·59	3·08	27·46
,,	Flint	St. Asaph (Nantllys)	·91	1·95	·69	1·38	4·38	1·71	·94	3·29	1·60	3·09	1·39	2·03	23·36
,,	Denbigh.....	Rosset (Trevalyn Hall) ...	·86	2·37	·67	1·40	4·04	1·40	·58	4·20	1·04	3·45	1·22	1·99	23·22
,,	Merioneth	Dolgelly (Werngoch)	6·60	6·41	2·28	3·87	7·54	4·24	2·15	7·43	3·59	7·26	5·59	8·51	65·47
,,	,, ...	Llanderfel (Palé)	3·57	4·27	1·37	2·77	4·75	2·88	1·15	6·49	2·48	6·20	2·80	6·71	45·44
,,	,, ...	Oakley Quarries	13·79	10·10	3·87	6·68	7·50	6·11	1·86	19·18	6·08	10·28	7·39	11·91	104·75
,,	Carnarvon.....	Llanystumdwy (Talarvor)	5·05	2·45	1·24	2·75	4·45	2·83	·73	6·02	2·38	5·77	3·40	3·79	40·86
,,	Anglesey	Llanerchymedd (Llwydiarth)	4·12	2·57	1·27	3·09	3·73	1·43	·68	5·21	2·69	4·41	3·23	3·05	35·48
,,	Isle of Man	Douglas (Woodville)	2·90	2·48	1·97	1·95	3·51	1·79	·28	6·41	2·47	4·58	4·55	4·55	37·44
,,	Jersey.....	St. Helier (St. Louis Obs.)	·79	1·87	1·56	1·28	4·12	2·22	·89	2·37	1·26	3·20	3·23	4·42	27·21
,,	Guernsey	St. Peter Port (Beaulieu)..	·79	2·66	1·67	2·26	4·64	1·61	·99	3·65	·84	4·57	5·36	5·32	34·36
							SCOTLAND.								
XII.	Wigton	Garliestown (Galloway House)	2·74	3·57	·92	2·96	2·92	1·71	·40	6·44	4·16	3·14	4·07	4·53	37·56
,,	,, ...	Corsewall	1·25	2·99	·97	1·41	3·13	2·44	·42	3·67	6·39	3·00	4·61	3·99	34·27
,,	Kirkcudbright ...	Dalbeattie(Colvend Manse)	5·32	3·81	1·62	3·45	2·32	1·96	·46	6·56	3·52	3·91	4·85	4·69	42·47
,,	,, ...	New Galloway (Glenlee)...	4·81	6·48	2·06	4·58	2·70	2·86	·89	6·68	4·13	4·26	6·66	8·41	54·52
,,	Dumfries	Langholm	3·68	4·56	2·52	5·63	2·86	3·57	·89	7·02	2·84	5·65	5·39	7·76	52·37
,,	,, ...	Moffat (Ericstane)	3·80	5·00	1·80	4·90	2·20	2·90	·90	5·20	3·30	5·50	6·70	8·60	50·80
,,	Roxburgh	Hawick (Branxholme).....	1·54	2·33	1·49	2·62	2·10	1·77	·99	2·31	1·48	4·29	4·37	5·61	30·90
,,	,, ...	Jedburgh	·43	1·42	1·30	1·95	1·80	1·18	·68	2·03	·67	4·06	2·15	5·35	23·02
XIII.	Selkirk	The Hangingshaw	·86	1·83	1·61	3·67	1·83	1·58	1·05	2·58	2·96	5·07	5·19	3·38	31·61
,,	Peebles	Eddlestone (Portmore) ...	1·20	2·10	1·42	2·03	2·08	2·72	1·50	3·98	2·85	5·30	5·47	3·05	33·70

SCOTLAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March	April	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XIII.	Berwick	Marchmont House	·71	1·21	1·84	3·36	2·29	1·31	1·24	3·03	1·69	6·09	3·75	1·80	28·32
,,	Haddington	Haddington Asylum	·86	·69	1·15	1·66	1·62	1·59	1·39	2·96	2·01	6·06	4·09	1·03	25·11
,,	Edinburgh	Edinburgh (Blacket Place)	·84	1·02	1·22	1·91	2·34	1·39	1·28	3·30	2·21	3·70	4·11	1·91	25·23
,,	Linlithgow	Uphall	1·55	1·93	1·36	2·01	2·09	1·49	·57	3·96	3·61	4·98	4·74	2·66	30·95
XIV.	Lanark	Biggar (Cambus Wallace)	1·57	2·62	1·20	2·50	1·62	2·00	1·44	3·38	3·08	3·42	4·75	3·90	31·48
,,	,,	Hamilton (Water Works)	2·40	3·80	1·20	2·05	1·85	1·45	1·10	4·80	3·90	3·10	5·10	6·25	37·00
,,	Ayr	Colmonell	2·51	6·39	1·40	3·50	3·19	2·99	1·09	4·52	3·92	2·34	5·51	4·52	41·88
,,	,,	Dalmellington (Benquhat)	3·65	5·63	1·74	2·77	3·47	3·78	2·40	5·54	5·40	3·92	5·68	7·76	51·74
,,	,,	Kilmarnock (North Craig)	3·15	4·10	1·85	2·05	1·95	2·70	1·65	5·90	5·00	4·05	5·95	7·75	46·10
XV.	Dumbarton	Arrochar	6·72	8·61	2·25	5·15	2·25	4·89	2·10	6·76	9·07	6·23	7·04	12·95	74·02
,,	Stirling	Buchlyvie (The Manse)	5·17	4·95	2·05	4·72	2·35	2·77	1·51	6·27	5·92	5·07	6·41	9·89	57·08
,,	Bute	Rothesay (Barone Cott.)	2·90	4·18	1·70	3·39	2·43	3·61	2·62	5·45	5·72	3·73	5·12	5·73	46·58
,,	Argyll	Lochgilphead (Poltalloch)	4·31	5·53	2·47	3·86	3·00	4·04	2·83	5·80	7·30	3·66	6·22	9·46	58·48
,,	,,	Morvern (Drimnin)	6·81	7·83	3·51	3·61	5·07	3·53	3·68	6·32	8·13	5·13	7·79	11·37	72·78
,,	,,	Ballachulish (Ardsheal)	9·83	7·66	5·09	6·50	3·12	3·32	3·42	8·28	9·60	5·20	7·45	16·67	86·14
,,	,,	Strontian (Laudale)	7·41	9·13	4·02	4·68	3·85	4·11	3·53	7·53	8·83	3·91	7·26	14·38	78·64
,,	,,	Kintyre (Devaar)	2·79	6·22	2·76	3·96	3·51	3·95	1·51	5·33	4·61	3·94	6·57	6·81	51·96
,,	,,	Tarbert (Stonefield)	6·24	11·01	3·94	4·89	3·92	5·20	3·52	7·78	9·21	5·65	8·07	13·13	82·56
,,	,,	Islay (Ardbeg)	2·50	5·99	2·85	2·20	3·91	3·90	1·76	5·49	7·00	2·43	5·36	6·66	50·05
,,	,,	Jura (Ardfin)	3·89	4·00	5·60	6·00	3·15	3·50	5·10	6·22	7·50	5·50	6·50	7·70	64·66
XVI.	Clackmannan	Dollar	2·81	2·36	1·84	2·59	2·60	3·52	2·06	5·04	6·58	5·36	5·74	5·31	45·81
,,	Kinross	Loch Leven Sluice	1·90	2·00	1·40	3·70	2·20	2·20	·90	3·70	3·60	5·70	5·90	4·40	37·60
,,	Fife	Kilconquhar (Balcarres)	·88	·86	·70	2·97	2·10	1·68	1·11	3·54	2·70	5·97	4·56	2·25	29·32
,,	Perth	Stronvar	7·64	8·70	3·25	6·97	2·67	3·28	1·67	6·91	7·39	6·84	10·62	18·01	83·95
,,	,,	Coupar Angus	·95	1·05	·35	3·53	1·88	1·59	·63	2·61	2·33	5·21	4·98	2·75	27·86
,,	,,	Blair Athol	1·82	3·20	·57	3·48	1·54	2·26	·97	3·25	3·53	4·17	3·37	6·20	34·36
,,	Forfar	Broughty Ferry (Douglas Ho.)	·62	·77	·73	4·06	2·05	1·22	·80	3·42	1·99	5·01	4·55	1·27	26·49
,,	,,	Kirriemuir (Balnakeilly)	1·20	1·05	·60	5·50	1·40	1·30	·55	2·85	2·45	6·10	4·75	3·80	31·55
XVII.	Kincardine	The Burn [Brechin]	·81	1·27	1·27	8·50	1·95	1·33	1·21	3·10	1·65	4·95	4·61	2·77	33·42
,,	Aberdeen	Coldstone Manse	·77	2·14	1·74	4·88	2·12	·91	·87	2·69	2·34	4·65	3·88	2·05	29·04
,,	,,	Haddo House	1·23	2·28	2·68	5·52	2·81	1·78	1·47	2·98	1·96	3·40	3·80	2·63	32·54
,,	,,	Old Deer	1·47	2·44	2·58	4·43	2·76	1·14	1·29	3·26	1·39	3·93	3·63	2·95	31·27
,,	Moray	Grantown	1·64	3·50	2·23	1·51	3·10	1·63	1·65	2·58	2·80	2·20	3·06	3·54	29·44
,,	,,	Gordon Castle	2·16	2·81	2·56	1·64	2·13	2·42	1·66	2·62	2·96	2·93	3·20	3·38	30·47
,,	Nairn	Cawdor (Budgate)	2·28	3·35	2·38	1·64	2·77	1·84	1·90	3·11	3·34	2·04	3·11	4·32	32·08

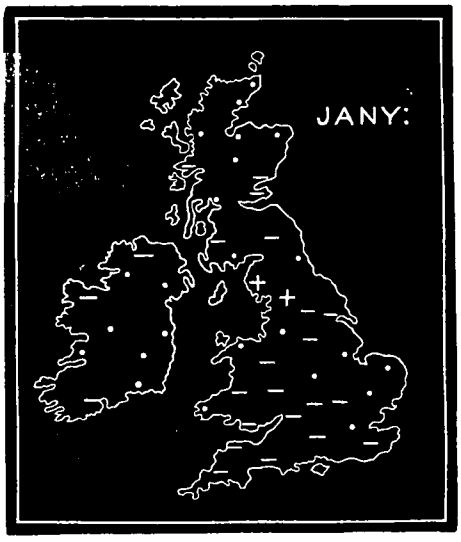
SCOTLAND—(*continued.*)

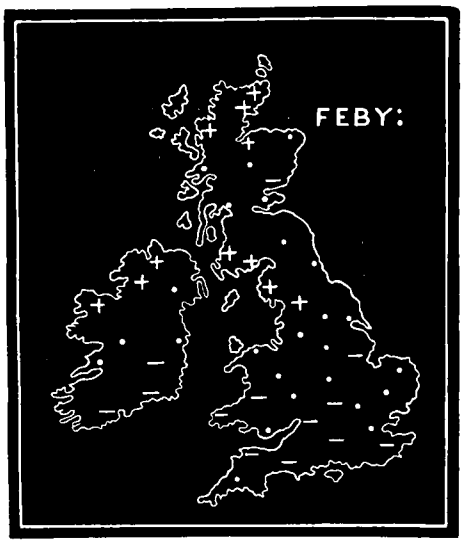
Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XVII.	Nairn	Nairn (Achareidh)	1·87	2·23	1·96	1·37	2·07	1·05	1·80	2·23	2·68	1·68	2·15	3·79	24·88
XVIII.	Ross	Applecross	5·25	7·99	5·11	3·56	5·19	2·53	4·45	4·50	6·64	3·29	6·92	10·90	66·33
,,	,,	Strathconan [Beauly]	4·72	10·91	4·97	5·05	3·71	3·31	2·38	5·95	4·61	3·75	8·44	9·44	67·24
,,	,,	Braemore House	5·75	10·30	7·95	4·95	3·55	4·08	4·45	1·85	5·90	5·10	7·85	17·98	79·71
,,	,,	Ardross Castle	2·93	4·26	2·80	3·12	1·72	2·48	1·74	3·04	3·90	4·43	5·78	8·02	44·22
,,	Inverness	Fort William (Ardtraigh)	13·82	11·53	7·81	6·53	2·86	4·14	2·78	4·54	11·28	6·52	8·00	23·58	103·39
,,	,,	Glen Quoich	18·69	15·22	10·09	8·02	5·07	4·82	4·78	9·03	13·54	8·00	13·26	31·32	141·84
,,	,,	Invergarry	11·86	4·49	3·82	1·88	1·58	2·42	1·10	2·54	4·27	4·08	7·64	17·45	63·13
,,	,,	Aviemore, H.R.S.	2·37	3·97	2·05	1·63	1·90	1·26	1·43	1·78	3·89	1·81	2·26	3·86	28.21
XIX.	Sutherland	Invershin	2·81	5·78	3·14	5·26	4·72	2·56	2·43	3·03	3·82	5·47	5·10	4·76	48·88
,,	,,	Dunrobin Castle	1·90	4·81	3·23	3·04	3·36	1·60	1·07	2·57	3·84	3·23	3·82	6·24	38·71
,,	Caithness	Wick	·88	1·87	·89	1·23	2·57	1·37	1·60	2·94	3·36	3·12	3·80	3·75	27·38
,,	,,	Watten Station	1·43	3·81	2·35	2·41	3·44	1·98	1·28	2·45	2·85	2·77	4·43	3·61	32·81
,,	Shetland	Sumburghead(Dunroseness)	4·32	4·62	3·66	2·58	2·19	2·18	1·09	3·37	3·09	4·58	3·87	6·96	42·51
		IRELAND.													
XX.	Cork	Dunmanway (Coolkelure)	7·56	3·73	1·75	7·78	3·44	3·32	1·15	8·94	6·22	10·28	6·38	8·72	69·27
,,	,,	Cork (Palace)	2·15	1·56	·58	4·52	2·30	1·76	1·15	4·29	3·07	8·16	2·91	3·35	35·80
,,	,,	Mallow (Summer Hill)	1·54	2·02	·66	3·73	3·01	2·65	1·49	4·57	3·66	5·24	3·92	3·51	36·00
,,	Kerry	Darrynane Abbey	4·58	3·72	1·51	6·03	2·77	2·28	1·39	4·42	5·23	6·03	6·60	3·95	48·51
,,	,,	Kenmare (Derreen)	5·65	4·75	·89	8·55	2·51	3·37	1·06	5·50	4·65	10·38	6·04	6·85	60·20
,,	Waterford	Waterford (Brook Lodge)	3·35	1·31	·42	4·94	2·47	3·04	1·55	4·75	2·69	6·06	2·95	3·01	36·54
,,	Tipperary	Clonmel (Bruce Villa)	2·81	1·51	·66	4·05	2·38	3·76	1·59	3·88	3·00	4·86	3·97	2·16	34·63
,,	,,	Nenagh (Castle Lough)	2·75	3·04	1·01	4·02	2·97	3·76	3·63	6·16	3·52	3·10	5·29	4·08	43·33
,,	,,	Ballingarry (Hazelfort)	1·97	2·00	·86	3·96	2·83	2·92	1·55	5·00	3·13	2·41	5·49	2·42	34·54
,,	Limerick	Limerick (Roxborough)	2·87	2·68	·99	4·29	3·11	2·84	1·84	5·32	3·74	3·55	5·00	2·35	38·58
,,	Clare	Killadysert (Paradise Hill)	4·93	5·48	1·71	3·19	4·25	2·96	1·69	7·34	2·77	4·92	5·36	6·26	50·86
,,	,,	Miltown Malbay	4·30	3·46	1·75	2·95	3·36	3·89	1·51	6·28	3·59	4·85	5·28	5·29	46·51
XXI.	Wexford	Ballyhyland	3·71	1·80	·49	5·60	3·39	3·27	2·02	5·15	2·42	5·48	4·53	3·05	40·91
,,	,,	Gorey (Courtown)	3·12	1·20	1·10	4·07	3·42	2·64	1·77	4·01	2·01	4·06	3·79	2·09	33·28
,,	Kilkenny	Inistioge (Woodstock)	3·21	1·52	·49	5·51	3·03	4·23	1·26	4·51	2·70	5·70	4·32	2·87	39·35
,,	,,	Lavistown (Millmount)	2·62	1·24	·42	3·56	2·40	2·78	·81	4·54	2·11	3·62	3·14	1·89	29·13
,,	Wicklow	Bray (Fassaroe)	2·20	2·84	1·69	5·48	4·05	2·08	1·39	2·86	2·01	5·13	6·45	1·70	37·88
,,	Carlow	Browne's Hill	3·04	1·54	1·17	4·15	3·34	2·89	1·05	5·28	2·20	3·36	4·41	2·00	34·43

IRELAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XXI.	Queen's County...	Abbey Leix (Blandsfort)...	2·61	1·88	·88	4·72	3·37	2·58	1·79	6·90	3·35	3·31	5·26	2·39	39·04
,,	Kildare	Straffan House.....	2·35	2·22	1·29	2·75	3·28	3·05	·63	5·62	2·27	3·71	6·29	2·02	35·48
,,	Dublin	Glasnevin(BotanicGardens)	2·13	2·05	1·23	2·71	3·58	1·87	1·13	4·54	2·01	4·20	4·59	1·29	31·33
,,	Meath	Athboy	1·93	2·68	1·11	3·59	3·57	3·13	·43	4·78	3·69	3·34	4·99	2·20	35·44
,,	,, ...	Moynalty (Westland)	2·56	2·97	1·09	4·28	3·81	2·89	·72	5·06	4·08	3·80	3·50	2·57	37·33
,,	Westmeath	Athlone (Twyford)	2·96	1·85	1·26	3·70	3·09	3·29	1·29	5·80	3·21	2·59	3·83	2·26	35·13
,,	,, ...	Mullingar (Belvedere).....	2·80	2·81	·91	3·40	4·41	3·48	1·85	6·05	3·75	2·85	5·22	2·03	39·56
,,	Louth	Ardee (Lissrenny).....	2·53	2·31	1·32	3·39	3·65	3·04	·63	3·73	2·77	4·93	2·90	2·18	33·38
,,	,, ...	Greenore	1·81	2·12	1·02	3·42	2·31	2·87	·65	4·67	4·04	3·33	3·18	1·69	31·11
XXII.	Galway	Ballinasloe	3·52	2·14	1·16	3·16	2·83	2·99	1·81	6·84	3·34	2·87	4·10	3·22	37·98
,,	,, ...	Kylemore House	6·67	10·05	2·90	6·50	4·09	5·20	2·58	8·67	5·57	6·13	10·48	12·44	81·28
,,	,, ...	Tuam (Gardenfield).....	3·20	3·64	1·29	2·80	2·86	3·86	2·00	5·91	3·26	2·30	4·53	5·12	40·77
,,	Roscommon	Rooskey	2·17	2·63	1·25	3·72	3·74	3·04	1·83	4·78	3·07	1·92	2·74	2·69	33·58
,,	Mayo ...'''.....	Ballinrobe (Cranmore).....	3·69	4·38	1·76	3·76	2·51	2·57	1·73	4·94	3·25	3·08	5·86	6·84	44·37
,,	,, ...	Crossmolina (Enniscoe) ...	3·53	6·74	2·60	4·70	3·56	3·48	1·26	4·89	2·95	3·92	8·12	8·61	54·36
,,	Sligo	Ballymote (New Park) ...	2·80	4·30	2·20	3·15	3·55	3·95	1·42	5·37	3·35	2·60	3·75	4·76	41·20
,,	,, ...	Ballysadare (Glen Lodge)..	1·98	5·07	2·09	3·10	4·00	3·80	1·11	4·22	3·65	2·33	4·08	4·84	40·27
,,	Leitrim	Ballinamore (Lawderdale).	2·61	4·33	1·53	4·30	3·16	3·41	2·02	5·41	3·48	2·47	3·35	4·10	40·17
XXIII.	Cavan	Stradone House	2·72	3·32	1·24	4·17	3·46	3·81	·53	4·27	3·58	3·67	3·08	3·08	36·93
,,	Monaghan.....	Dartrey.....	1·95	3·49	·97	3·57	3·06	3·13	·51	3·83	3·02	3·92	2·30	2·22	31·97
,,	Armagh.....	Bridge Street [Newry] ...	1·90	2·91	1·04	4·89	3·33	3·34	·71	4·77	3·49	4·14	2·59	2·63	35·74
,,	,, ...	Armagh.....	1·81	3·10	1·05	2·90	3·53	2·81	·56	3·49	4·39	3·05	2·56	2·51	31·76
,,	Down.....	Seaforde	1·32	2·54	·96	3·20	3·02	3·21	·70	4·48	3·62	4·18	3·15	2·69	33·07
,,	,, ...	Donaghadee	1·28	2·10	1·00	2·35	2·63	3·06	·41	4·31	3·95	3·28	4·17	2·00	30·54
,,	Antrim	Belfast (Springfield).....	2·24	3·93	1·68	3·70	3·85	3·53	·74	5·56	4·09	3·91	3·64	2·97	39·84
,,	,, ...	Ballymena.....	2·05	3·56	2·10	5·45	3·79	2·99	·62	3·82	4·43	3·06	3·44	3·46	38·77
,,	,, ...	Bushmills (Dundarave) ...	1·43	4·32	1·52	3·19	2·49	2·54	·75	5·27	5·06	2·10	3·34	2·63	34·64
,,	Londonderry.....	Garvagh (Moneydig)	1·48	4·85	1·62	5·11	2·94	2·57	·60	3·42	4·05	2·93	3·43	2·99	35·99
,,	Tyrone	Stewartstown (The Square)	2·07	2·96	1·04	4·73	3·30	3·00	·50	4·02	5·16	4·43	3·62	3·01	37·84
,,	,, ...	Omagh (Edenfel)	2·64	4·18	1·64	3·70	3·26	3·40	·61	5·28	4·12	3·80	3·85	3·90	40·38
,,	Donegal.....	Killybegs	4·24	8·32	3·08	4·21	5·88	4·50	1·28	7·92	4·38	4·08	8·93	8·19	65·01
,,	,, ...	Horn Head	2·55	5·15	2·22	2·85	3·96	3·06	1·06	4·24	4·01	4·60	5·68	7·13	46·51

MAPS OF MONTHLY RAINFALL, 1898.



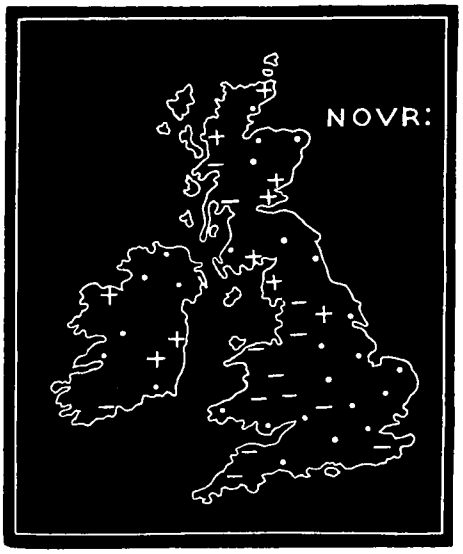


• Within an inch of average.

\+ More than 1 in. above average.

— ,, ,, ,, below ,,

MAPS OF MONTHLY RAINFALL, 1898.



• Within an inch of average.

\+ More than 1 in. above average.

— ,, ,, ,, below ,,

NOTES ON THE MONTHS.

JANUARY.

Remarkably dry (and mild), except at stations in the mountainous parts of Yorkshire, the Lakes, Wales, and in the N. and W. of Scotland. At Addington, Bucks, it was, with one exception, the driest January for 28 years. At Ross (Hereford) it was unprecedented for dryness in 70 years.

FEBRUARY.

The distribution much resembled that of January. In the S. of England the fall was, at many stations, less than an inch, and averaged about 1½ inches. Tenterden reported the total of only 6·36 in. for the five months October, 1897, to February, 1898. On the other hand, the fall at Seathwaite was 16·56 in., at several Welsh stations was over 10 inches, and similarly large amounts were reported from the N.W. of Scotland. It was rather wet also in the N. of Ireland.

MARCH.

A dry, or very dry, month almost everywhere, except in the extreme N.W. of Scotland.

JANUARY TO MARCH.

The contrast between the fall in the S.E. of England and in the N.W. of Scotland is so great that it may be of interest to set out the figures.

	S.E. ENGLAND.			N.W. SCOTLAND.		
	London. in.	Arundel. in.	Oxford. in.	Fort William. in.	Glen-quoich. in.	Ben Nevis. in.
Jan.	·73	·93	·52	13·82	18·69	27·08
Feb.	1·08	1·50	1·21	11·53	15·22	30·09
March	1·46	·96	·74	7·81	10·09	19·07
Total.....	3·27	3·39	2·47	33·16	44·00	76·24

The Scotch values are about seventeen times the English ones !

APRIL.

A dry, or average, month in England, Wales, and the South of Scotland. Wet in the North of Scotland, and in Ireland.

MAY.

Rainfall slightly above the average in the S.E. of England, and in the West Midland counties; near the average in most other parts.

JUNE.

R near to, or a little below, the average at most stations, except those at which (as at Bury St. Edmunds, Norwich, and other places mentioned on p. [118]) heavy TS rains fell.

JULY.

One of the driest Julys on record. There seems to have been a local excess in S. Yorkshire owing to a TS, and a slight excess in the extreme N. of Scotland, but as a whole it was an exceptionally dry month.

AUGUST.

Dry in the Southern half of England, near the average or wet elsewhere. It was very wet at Seathwaite, R 19·65 in., but there were there 14 rainless days. Probably many persons on looking down the tables of monthly fall would suppose that the entry of 19·18 in. for August at Oakley Quarries was an error, but it is confirmed by—

	in.		in.
Bettws-y-Coed, Aberllyn	10·91	Dolgelly, Dolmelynllyn	15·72
Bodrennig	11·01	Ffestiniog, Cwmorthin.	21·77

and to these we may add the following from some of Mr. Gethin Jones's new Snowdonian stations :—

	in.		in.
Idwal Lake N.	12·10	Dolwyddelan, Tynyddol.....	14·50
,, ,, S.	12·50	,, Nhadog	22·25
Nant Ffrancon	12·70	,, ,, Upper ...	24·04

SEPTEMBER.

Extremely dry in all parts of England; rather wetter than usual in the W. and N. of Scotland, and in the N.E. of Ireland. The observer at Tenterden, Kent, says that the twelve months ending on October 1st had only 18·08 in., being ten inches less than the average, and the least for 35 years.

OCTOBER.

Still dry in the E. of England; wet in the S.W. and W. of England, in S. Wales and the S. of Ireland; near the average at most other places.

NOVEMBER.

Generally near the average, or below it; but with local excesses in the N. of England, the E. of Scotland, and at some Irish stations.

Daily Rainfall in Scotland in December, 1898.

	Balquhidder, Stronvar.	Ben Nevis Observatory.	Fort William, Ardtraigh.	Loch Shiel, Glenaladale.	Mucomir.	Inverie.	Laggan Locks.	Invergarry.	Glenquoich.	Strathaird.	Scalpay.	Raasay.	Glencarron Lodge.	Isle of Lewis, Stornoway.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1·15	4·47	2·03	2·45	2·10	1·65	1·69	·72	1·01	1·44	·24	·22	1·76	1·40
2	·35	1·62	·42	·59	·45	·47	·51	·20	2·56	·44	·53	1·13	·60	·25
3	1·21	2·00	1·52	1·75	1·54	1·52	·73	1·37	·75	1·23	·20	·33	1·65	1·35
4	3·05	2·68	3·64	3·48	2·39	2·02	2·77	2·70	2·18	·67	1·95	1·50	1·50	·50
5	1·24	1·70	1·13	1·16	1·09	·47	·80	·55	2·93	·79	1·12	·30	·55	·08
6	·79	1·19	·86	·57	·83	·44	·77	1·30	·78	·40	·90	·79	·65	·45
7	·24	1·36	·29	·25	·30	·20	·23	1·45	·57	·20	·20	·80	·72	·30
8	1·00	·33	·83	·99	·38	·66	·85	·56	·61	·62	·80	·17	·75	·60
9	·84	1·61	1·16	1·55	·86	1·12	1·19	·70	1·00	·70	·72	1·60	1·32	·50
10	·06	2·56	1·44	1·65	1·55	·95	·95	·30	2·13	·87	1·30	·70	1·23	·35
11	·35	3·56	·56	·95	·35	·53	·42	·60	1·89	·38	·10	·50	·67	·80
12	·12	1·65	·53	·32	·95	·35	·61	·25	1·31	·22	1·10	·72	·64	·40
13	·34	·26	·68	·81	·98	·65	·50	·40	·48	·73	·15	·22	·92	·30
14	·04	2·50	·13	·30	·20	·19	·22	·22	1·14	·18	·34	·52	·35	·25
15	·21	·09	·38	·65	·38	·81	·20	·15	·36	1·99	·18	·13	·67	·12
16	·01	1·92	·12	·38	·07	·40	·03	—	·38	·09	·20	·17	·09	·08
17	·71	1·02	1·29	·91	1·27	1·01	1·42	·90	·15	·94	·07	·07	1·60	·30
18	·15	1·85	·34	·94	·24	·15	·54	·45	1·71	·39	1·05	·80	·51	·21
19	·02	·98	—	·10	·02	·08	·06	1·55	·53	—	·34	·70	·51	·08
20	·03	·71	·19	·51	·18	·21	·15	·30	·13	·24	·03	·10	·44	·50
21	—	·03	—	·04	—	·02	·03	·15	·76	—	·05	·20	·04	·05
22	·22	·03	·13	·38	·04	·26	·03	·20	·04	1·20	·01	·02	·26	·55
23	1·44	1·66	1·76	1·45	1·24	1·36	·66	·45	·34	·47	·39	·72	1·15	·35
24	·25	·28	·41	·82	·27	·30	·25	·18	1·58	·82	1·50	·80	·60	1·40
25	1·82	3·17	2·03	1·24	1·20	1·15	1·53	·25	·62	·39	·50	·70	1·18	1·50
26	·73	2·35	·43	·84	·33	·76	·41	·55	2·80	·60	2·00	1·02	·43	·70
27	1·04	·98	·43	1·02	·45	·63	·66	·80	·66	·18	·44	·70	·71	1·10
28	·24	·81	·08	·26	·17	·52	·23	·20	1·62	·23	·84	·01	·15	·12
29	·04	—	—	—	—	—	—	—	·27	—	·14	·17	—	·05
30	·02	—	·33	·26	—	·05	·03	—	—	—	—	—	—	·03
31	·30	·28	·05	·54	—	·20	·12	—	·03	—	·06	·04	—	·20
	18·01	43·65	23·19	27·16	19·83	19·13	18·59	17·45	31·32	16·41	17·45	15·85	21·65	14·87

Apparently some of these observers do not obey Rule IX.

DECEMBER.

The fall was generally near the average, but greatly above it in the English Lakes, and remarkably, if not unprecedentedly, so in the N.W. of Scotland. The falls there were so unusual that we have prepared the preceding table to show the daily fall at some of the wettest stations. We much regret that we could not maintain the station at Sligachan which we established many years ago; in such a month as December, 1898, its record would have been of great interest, though it would probably not have beaten the 43·65 in. reported from Ben Nevis.

THE DEFICIENCY OF RAIN—APRIL, 1897, TO DECEMBER, 1898.

We shall in the proper place have to consider the relation of the total fall of rain in 1898 to the average, but it seems desirable to show how the deficiency over most of the Southern part of England was built up, and how far its effects were intensified by dryness in the year 1897. This involves monthly details, and on that account it seems an appropriate sequel to the comments which we have been giving upon the falls in the individual months.

We have tried various methods of representing the facts, and found none better than the table on p. [149]. To the majority of readers it is probably self-explanatory, but in case it should not be, we give the complete details for the first three months for the second station, because it illustrates the subject better than the first would have done.

RED HILL.

	Average, 1880-89. in.	Fall in 1897. in.	Difference from Average. in.	Cumulative Deficiency. in.
April	1·90	1·71	—·19	—·19
May	1·92	1·45	—·47	—·66
June	2·01	2·36	+·35	—·31

We shall have to consider subsequently the areas of greatest intensity of the drought. This table is intended to show (and we think it does show very clearly) how steadily and persistently the deficiency was built up; but even these few stations show how greatly the intensity varied from E. to W. along the S. of England, from a total deficiency of 13·98 in. at Tenterden in the E., to 3·96 in. at Osborne, and to a mere ·85 in. on the borders of Devon and Cornwall.

CUMULATIVE DEFICIENCY OF RAIN IN THE SOUTH OF ENGLAND APRIL, 1897, TO DECEMBER, 1898.

Year.	Months.	Camden Square, *Middlesex.*	Red Hill, *Surrey.*	Tenterden, *Kent.*	Chilgrove, Chichester.	Osborne, Isle of Wight.	Hitchin, *Herts.*	Winslow, *Bucks.*	Brentwood, *Essex.*	Bury S. Edmunds, *Suffolk.*	Launceston.	Stroud, *Gloucester.*	Church Stretton, *Salop.*	Diglis, *Worcester.*	Boston, *Lincoln.*
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1897	April ...	— ·17	— ·19	— ·06	+1·11	+ ·74	— ·02	— ·35	+ ·24	+ ·41	+1·10	— ·34	— ·13	— ·59	— ·42
,,	May ...	— ·99	— ·66	— ·46	+ ·15	+ ·47	— ·85	—1·60	— ·28	— ·08	+ ·66	— ·86	— 1·81	— 1·84	— 1·06
,,	June ...	— 1·13	— ·31	— ·14	+ ·76	+1·45	— ·38	— ·91	+ ·21	+1·07	+ ·18	— ·81	— 1·63	— 1·49	— 1·03
,,	July ...	— 3·17	— 1·84	— 1·74	—1·92	— ·34	— 2·30	—2·67	— ·98	— ·77	+ ·45	—1·47	— 3·61	— 3·82	— 2·04
,,	August.	— 2·13	— ·43	— ·37	+1·86	+1·71	— 2·05	+1·04	— 1·13	+1·79	+3·82	+2·03	— 3·05	— 1·24	— 1·89
,,	Sept. ...	— 1·89	— ·80	— ·85	+1·98	+1·49	— 2·65	+1·70	— ·66	+2·02	+6·14	+1·81	— 3·06	— 1·56	— 1·54
,,	Oct. ...	— 4·22	— 4·05	— 4·64	—2·08	—1·47	— 5·10	— ·15	— 3·38	— ·40	+2·71	+ ·34	— 5·73	— 2·67	— 3·74
,,	Nov. ...	— 5·83	— 6·17	— 6·96	—4·11	—3·29	— 6·63	—1·83	— 5·01	—1·86	+1·07	—1·27	— 7·23	— 3·90	— 4·36
,,	Dec. ...	— 5·70	— 5·00	— 6·31	—2·33	—2·25	— 6·34	—1·21	— 4·93	—2·39	+3·11	+ ·30	— 6·65	— 3·31	— 4·98
1898	Jan. ...	— 6·59	— 6·40	— 7·52	—3·54	—3·66	— 7·34	—2·34	— 5·66	—2·72	+ ·99	—1·58	— 8·12	— 4·57	— 5·32
,,	Feb. ...	— 7·39	— 7·52	— 8·56	—4·26	—3·45	— 7·98	—3·55	— 6·38	—3·33	+ ·55	—2·78	— 8·31	— 5·19	— 6·54
,,	March..	— 7·54	— 7·94	— 8·04	—5·36	—4·79	— 8·05	—4·18	— 6·51	—2·77	— ·78	—4·35	— 9·76	— 6·60	— 6·71
,,	April ...	— 8·27	— 8·69	— 8·54	—5·79	—5·15	— 8·54	—4·28	— 6·56	—2·95	—1·09	—4·26	—10·24	— 6·76	— 6·18
,,	May ..	— 7·91	— 7·23	— 6·70	—3·85	—3·40	— 7·67	—3·01	— 5·97	—1·86	+1·44	—2·98	— 7·70	— 5·04	— 5·49
,,	June ...	— 8·81	— 7·65	— 6·44	—3·08	—3·68	— 7·61	—2·99	— 5·91	— ·28	+1·27	—4·39	— 8·88	— 6·13	— 6·39
,,	July ...	—10·40	— 9·34	— 8·54	—6·12	—5·67	— 9·40	—5·33	— 7·50	—1·13	—1·76	—7·19	—11·05	— 8·26	— 8·40
,,	August.	—11·10	—10·16	— 8·74	—6·42	—5·62	— 9·83	—5·27	— 8·79	—1·53	—1·02	—6·31	—10·93	— 7·89	— 6·90
,,	Sept. ...	—13·28	—12·77	—10·88	—7·33	—7·30	—12·01	—7·53	—11·09	—4·03	—3·02	—8·44	—12·83	— 9·72	— 9·40
,,	Oct. ...	—13·21	—13·02	—12·37	—7·74	—6·18	—12·62	—7·45	—11·59	—5·47	+ ·42	—6·97	—10·51	— 9·65	— 9·69
,,	Nov. ...	—13·93	—12·37	—13·48	—6·51	—4·83	—12·99	—8·56	—12·65	—5·69	—1·35	—7·69	—12·50	—10·87	—10·29
,,	Dec. ...	—13·46	—12·38	—13·98	—6·53	—3·96	—12·21	—7·83	—12·28	—5·44	— ·85	—6·94	—13·09	—10·29	—10·45
1897	9 months	— 5·70	— 5·00	— 6·31	—2·33	—2·25	— 6·34	—1·21	— 4·93	—2·39	+3·11	+ ·30	— 6·65	— 3·31	— 4·98
1898	12 months	— 7·76	— 7·38	— 7·67	—4·20	—1·71	— 5·87	—6·62	— 7·35	—3·05	—3·96	—7·24	— 6·44	— 6·98	— 5·47

ON THE RELATION OF THE TOTAL FALL OF RAIN IN 1898 TO THE AVERAGE, AND ALSO TO SOME PREVIOUS YEARS.

No one can have read the preceding pages of this volume without having been led to expect some noteworthy facts in this section. And they will certainly find them. "Ringed" signs on the map are about twice as numerous as usual; there are 19 ringed — signs, *i.e.*, stations with a deficiency of 25 per cent. or more, and there are 8 with excesses beyond the same limit.

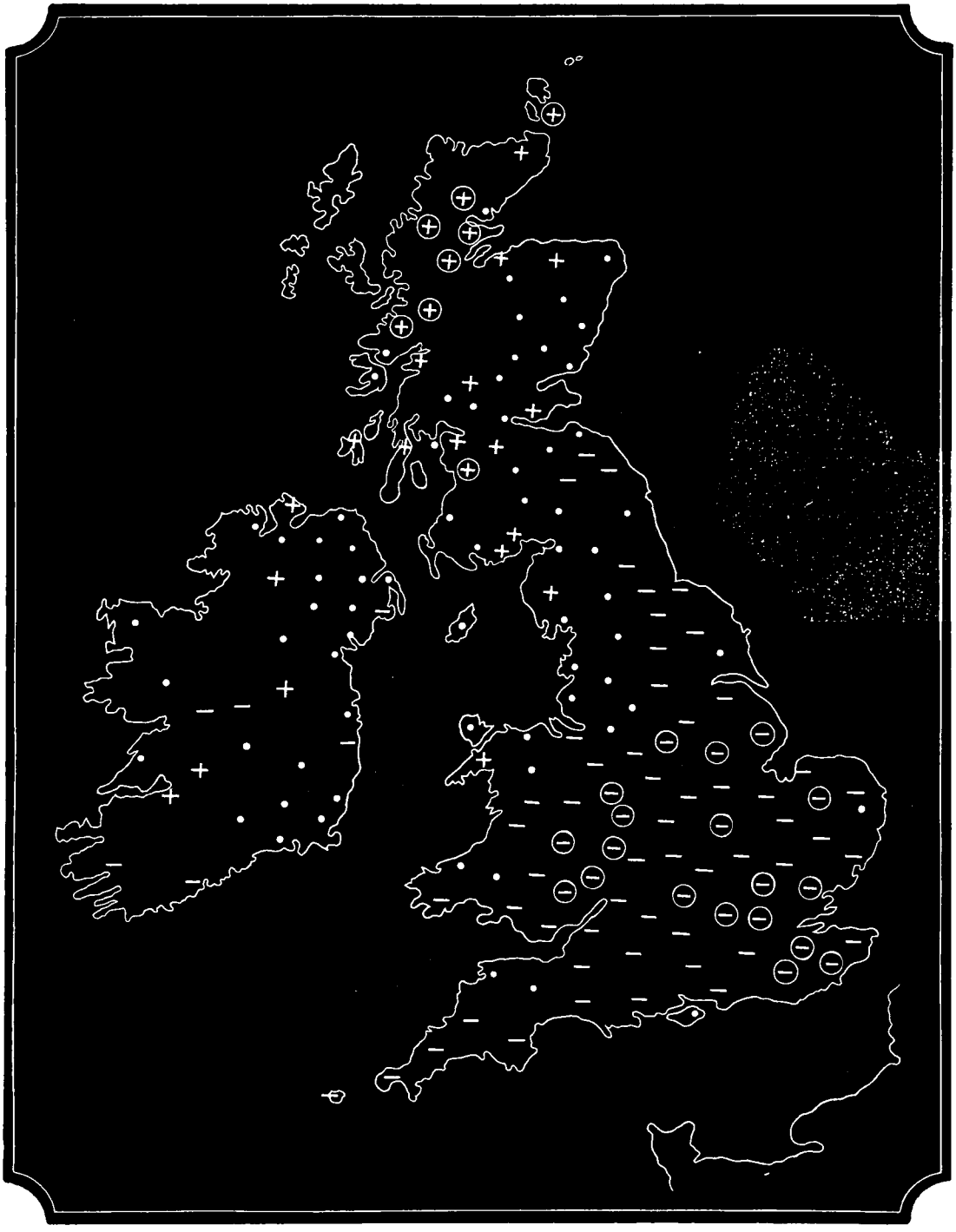
As possibly this volume may fall into the hands of some who have not read previous ones, it will be well to explain very briefly the formation of the tables and map upon which these remarks are chiefly based. The tables on pages [154] to [157] contain the results for about 200 stations so chosen as to equably represent the whole area of the British Isles, by stations at which observations were not merely complete during 1898, but also during the ten years 1880–89, thus ensuring that every comparison is made as nearly as possible with identical data. Then, for each station, the difference is taken between the average for 1880–89 and the actual fall in 1898, both in its amount in inches, and as a percentage of that average. These figures are the basis of the + and — marks placed upon the accompanying map, the precise definitions being noted at the foot thereof.

The first noticeable feature of the map is the number of signs within rings, 19 minus ones and 8 plus ones. The unusual nature of this fact is shown by the following three lines:—

Year.	1890	1891	1892	1893	1894	1895	1896	1897	Mean	1898
Stations with deficit of 25 or more %	16	0	20	31	0	5	7	2	10	19
,, ,, excess ,, ,,	1	9	1	3	12	0	1	5	4	8

The driest area may be said to be enclosed by a line starting from Brighton and going W.N.W. to Builth in Brecknockshire, then going N.E. to Sheffield, and E. to the coast of Lincolnshire. Within this line will be found the following considerable deficiencies:— London 30, Sevenoaks 30, Oxford 30, Wellingboro' 36, Ross 31, Stourbridge 30, Newark 32, Horncastle 30; and, while investigating these cases, we worked out the values for some surrounding stations,

DIFFERENCE OF TOTAL RAINFALL IN 1898 FROM THE AVERAGE OF 1880-89.



The round dot indicates a rainfall within 10 per cent. of the average.
The + and — respectively show excess or defect of between 10 and 25 per cent.
The same signs enclosed by a ring indicate a departure from the average of more than 25 per cent.

Face p. [150].

and of these the following showed large deficiencies:—Muswell Hill 30, Farringdon 30, Southgate 35, Hemelhempstead 40, Great Gaddesden 31, Althorp 37.

All these stations are within the area above described, and most of them are in the watershed of the Thames, which, taken as a whole, had in 1898 probably only about three-quarters of its mean rainfall.

Turning to the consideration of the parts of the country in which there was an excess, we come upon facts so startling that we are very glad to bring to their support remarks written nearly forty years since. We give the quotation at once in order that readers may have the facts of 1860–62 in their minds before they consider those of 1898.

> "The rainfall in London in 1862 was about 27 inches, being about 2 inches above the average of the last half-century; in the eastern counties there was not the average amount by about 3 inches, while in Devonshire and in the north-western counties it was much in excess.
>
> In the Western counties of Scotland there was again a large increase.
>
> The enormously increased fall in the Western counties of Scotland, and especially in the Isle of Skye and the Hebrides, during the last three years, almost seems incredible.
>
> The exact amounts at three or four of these stations are given in Table I., and show that, in the neighbourhood of Glasgow, the fall in 1862 was nearly half as much again as in 1860; that at Dunoon the fall in 1862 was 30 inches greater than 1860; that at Portree there was an increase of 50 inches between 1860 and 1861, 1862 being less than 1861, but 23 inches greater than 1860; that in North Uist the fall in 1862 was 27 inches greater than in 1860; and finally, that at Bernera, an island to the westward of the Isle of Lewis, the fall has been reported as being, in 1860, 32 inches; 1861, 61 inches; and in 1862, 105 inches."—G. J. SYMONS, in *Proceedings of British Met. Soc.*, Vol. I., No. 1.

If now we turn to the Comparison table on pages [154–157], we shall find in Divisions XVIII. and XIX. a series of excesses of startling magnitude, in almost exactly the same part of the N.W. of Scotland as in 1861 and 1862. Taking for remarkable excesses the

same percentage as we did for deficiencies in Central and S.E. England, viz., 30, we have the following percentages of excess—

Strathconan	+ 35	*Glenquoich*	+ 38*
Braemore House	+ 38	*Invershin*	+ 55
S. Ronaldshay.....	+ 72		

This last being one of the largest percentages yet recorded in the British Isles. Unfortunately there are very few stations in that part of Scotland of which the records were continuous from 1880 to 1889, and which were at work in 1898. We give the percentages for all other available stations in the following list :—

Loch Vraon	+ 45	Watten	+ 22
Stornoway	+ 55	Balfour Castle	+ 20
Glenaladale	+ 28	Dunroseness	+ 18
Dunrobin Castle	+ 29		
,, ,, M. ...	+ 30		

We have repeatedly expressed our doubts respecting the records of rainfall at Lighthouses, and therefore we have kept them separate, but the following are the results which they show : —

Stornoway	+ 22	Cape Wrath	+ 4
Butt of Lewis	+ 37	*Holburn Head*	+ 89
Tarbetness	+ 48	*Pentland Skerries*.....	+ 46
Oronsay	+ 1	Cantickhead	+ 0
Kyleakin	— 7	*Graemsay W.*	+ 38
Barrahead	+ 20	Start Point	+ 78
Ushenish	+ 8	N. Ronaldshay.....	+ 20
Island Glass	+ 37	Sumburghead	+ 32
Stourhead	— 1	Bressay	+ 5

We are in no way responsible for the Lighthouse returns, and think that it would lead to improvement if every keeper had to pass an examination in decimals before being appointed.

However, what we have to consider is, whether or not there is any ground for suspecting that any undetected error has affected any of our regular gauges. We cannot see any such evidence, and it would be very unfair to observers who have helped us for long periods, 20 or 30 consecutive years, to throw the slightest suspicion upon their records because it so happens that, while we in the South have had an exceptionally dry time, they have had a still more exceptionally wet one.

We have yet to consider the summing-up of the whole matter in the following little table, which shows that (accepting these 175

* Names in italics indicate that 1898 was wetter than any previous year.

stations as fairly representative) the dryness in England and Wales was almost exactly balanced by the excess in Scotland, so that as regards the whole of the British Isles the fall was very near the average.

ABSTRACT.

COUNTRIES.	No. of Records.	Average 1880-89.	1897.	Diff. from Average. 1880-89.	
				Amount.	Per cent.
		in.	in.	in.	
England and Wales...	95	34·21	29·42	4·79 —	14
Scotland.....	45	44·51	49·82	5·31 +	12
Ireland	35	38·91	38·40	·51 —	1
Mean of all Stations...	175	37·80	36·46	1·34 —	4

Lastly, we have to look at the popular table on page [158], and to see how different localities have fared during the last nine years.

This shows that the S.E. and E. of England have been generally dry for the last four years, but that the Central Counties of Salop, Stafford, Worcester, Warwick, Lincoln, and Nottingham have fared far worse, for at the typical stations in those counties not one of the last seven years has had its average fall, and some of them have been very dry. We give the actual figures for six other stations, each to the best of our belief, absolutely trustworthy.

Station and County.	Average 1880-89.	Deficiency in						
		1892.	1893.	1894.	1895.	1896.	1897.	1898.
	in.	in.	in.	in.	in.	in.	in.	in.
Rodbaston, *Stafford*...	29·75	·84	7·97	5·51	6·37	5·65	2·42	8·19
Diglis, *Worcester*	26·90	8·53	9·42	1·89	2·75	9·40	1·48	6·98
Thornton, *Leicester* ...	27·69	5·86	6·23	4·48	2·83	2·79	2·33	5·34
Market Ove, *Rutland.*	28·54	5·25	9·30	2·53	2·95	1·55	5·52	6·92
Cropwell, *Notts*	26·05	4·53	8·62	5·22	5·39	3·95	3·17	7·76
Findern, *Derby*.....	25·45	4·13	6·21	4·59	3·15	5·49	·09	6·86

A run of seven consecutive years without a single excess, and with a total deficit ranging from the average fall of one year to that of one year and a half, is very severe, for it represents, at the worst station, an average loss of 21 per cent. per annum for seven consecutive years.

Of course we have not forgotten that this was preceded by a run of wet years, but making full allowance for that, it is undoubtedly a trial for waterworks in Central England.

COMPARISON OF THE RAINFALL OF THE YEAR 1898, WITH THE AVERAGE OF THE YEARS 1880-89.

ENGLAND & WALES.

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1898.	Difference from average, 1880-9.	
					Amount.	Per cent.
			in.	in.	in.	
I.	Middlesex	London (Camden Square)	25·45	17·69	7·76	— 30
II.	Surrey	Dorking (Abinger Hall)	30·60	24·98	5·62	— 18
,,	Kent	Tenterden .....(*Snowdon*)	28·11	20·44	7·67	— 27
,,	,, ...	Sheldwich	28·70	22·49	6·21	— 22
,,	,, ...	Sevenoaks (Riverhead Vic.) ...	28·37	19·80	8·57	— 30
,,	Sussex, West...	Chichester (Chilgrove)	32·83	28·63	4·20	— 13
,,	,, East ...	Maresfield (Forest Lodge).....	31·41	22·16	9·25	— 29
,,	Hampshire.....	Isle of Wight (Osborne)	27·29	25·58	1·71	— 6
,,	,, ...	Christchurch (Mudeford)	27·01	22·58	4·43	— 16
,,	,, ...	Alresford (Ovington)	31·02	25·70	5·32	— 17
,,	Berkshire	Newbury (Welford Park) *n.g.*	30·27	26·44	3·83	— 13
III.	Hertfordshire ..	Hertford (Bayfordbury)	25·04	18·34	6·70	— 27
,,	Buckingham ...	Slough (Langley)	24·37	18·14	6·23	— 26
,,	,, ...	Winslow (Addington Manor) ..	27·97	21·35	6·62	— 24
,,	Oxfordshire ...	Oxford (Magdalen Coll.)	26·19	18·35	7·84	— 30
,,	Northampton..	Wellingboro'(Croyland Abbey)	28·67	18·22	10·45	— 36
,,	Bedfordshire ...	Bedford (Milton Ernest)	23·87	20·82	3·05	— 13
,,	Cambridgeshire	Ely (Stretham)	22·39	17·95	4·44	— 20
,,	,, ...	Wisbech (Bank House).....	25·27	19·78	5·49	— 22
IV.	Essex	Chelmsford (High Street).....	23·01	17·27	5·74	— 25
,,	,, ...	Saffron Walden (Newport) ...	24·82	20·56	4·26	— 17
,,	Suffolk	Rendlesham Hall	24·83	19·91	4·92	— 20
,,	,, ...	Ixworth(Walsham-le-Willows)	26·13	22·16	3·97	— 15
,,	Norfolk	Geldeston[Beccles].....5 *in. g.*	23·90	22·08	1·82	— 8
,,	,, ...	Sprowston (Oak Lodge).....	26·11	21·62	4·49	— 17
,,	,, ...	Swaffham (Dunham)	28·76	20·68	8·08	— 28
,,	,, ...	Hillington School	28·10	22·13	5·97	— 21
V.	Wilts	Salisbury Plain (Chitterne Ho.)	28·26	23·24	5·02	— 18
,,	,, ...	New Swindon	28·38	21·69	6·69	— 24
,,	Dorset.....	Beaminster Vicarage.....	38·47	29·48	8·99	— 23
,,	Devon.....	Ashburton (Druid House).....	51·28	42·37	8·91	— 17
,,	,, ...	Polapit Tamar.....	38·18	34·22	3·96	— 10
,,	,, ...	Bampton (Huntsham)	44·52	43·70	·82	— 2
,,	,, ...	Barnstaple (Arlington Court)..	52·85	50·60	2·25	— 4
,,	Cornwall	Marazion.....	38·68	30·50	8·18	— 21
,,	,, ...	St. Austell (Trevarna)	47·10	37·12	9·98	— 21
,,	Somerset	Glastonbury (Street)	31·16	24·15	7·01	— 22
VI.	Gloucestershire	Clifton (Pembroke Road)	36·08	29·70	6·38	— 18
,,	,, ...	Stroud (Upfield).....	30·91	23·67	7·24	— 23
,,	Hereford	Ross (The Graig)	31·18	21·42	9·76	— 31
,,	,, ...	Kington (Lynhales)	35·32	25·72	9·60	— 27
,,	Shropshire.....	Bishop's Castle (Castle Street).	34·08	26·26	7·82	— 23

ENGLAND & WALES.—*Continued.*

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1898.	Difference from average, 1880-9. Amount.	Per cent.
			in.	in.	in.	
VI.	Shropshire	Shifnal (Haughton Hall)	28·54	21·14	7·40	— 26
,,	,,	Adderley Rectory	28·80	25·10	3·70	— 13
,,	Stafford	Dennis [Stourbridge]	28·07	19·64	8·43	— 30
,,	,,	Burton (Shobnall)	25·86	19·76	6·10	— 24
,,	,,	Cheadle (The Heath House)	32·71	27·79	4·92	— 15
,,	Worcester	Northwick Park	30·09	27·15	2·94	— 10
,,	,,	Grt. Malvern (Church Street)	29·49	21·27	8·22	— 28
,,	Warwick	Shipston (Compton Wynyates)	28·67	22·84	5·83	— 20
,,	,,	Coventry (Priory Row)	28·94	22·25	6·69	— 23
VII.	Leicester	Thornton Reservoir	27·69	22·35	5·34	— 19
,,	Rutland	Market Overton	28·54	21·62	6·92	— 24
,,	Lincoln	Stubton [Newark]	27·44	18·77	8·67	— 32
,,	,,	Horncastle (Bucknall)	25·96	18·14	7·82	— 30
,,	,,	Brigg	27·22	20·86	6·36	— 23
,,	Nottingham	Worksop (Hodsock Priory)	25·84	20·87	4·97	— 19
,,	Derby	Matlock Bath	36·62	25·94	10·68	— 29
VIII.	Cheshire	Chester Nurseries	29·08	23·74	5·34	— 18
,,	,,	Chelford (Astle Hall)	30·73	28·69	2·04	— 7
,,	,,	Torrside Reservoir	44·65	42·34	2·31	— 5
,,	Lancashire	Ormskirk (Rufford)	31·86	31·84	·02	— 0
,,	,,	Over Darwen (St. James's Vic.)	46·56	44·11	2·45	— 5
,,	,,	Kirkham (Weeton)	37·04	33·79	3·25	— 9
,,	,,	Cartmel (Holker)	42·25	45·29	3·04	+ 7
IX.	York, W. Ridng.	Wakefield Prison	28·02	21·51	6·51	— 23
,,	,, ,,	Knaresborough (Farnham)	27·37	22·54	4·83	— 18
,,	,, ,,	Malham Tarn	57·71	58·73	1·02	+ 2
,,	,, E. Riding.	Pocklington (Warter)	30·46	28·46	2·00	— 7
,,	,, N. Riding.	Old Malton	26·90	22·19	4·71	— 18
,,	,, ,,	Bedale (Thorpe Perrow)	27·75	22·39	5·36	— 19
,,	,, ,,	Guisborough (Hutton Hall)	33·97	27·24	6·73	— 20
X.	Durham	Darlington, Cleveland Parade.	26·37	21·64	4·73	— 18
,,	,,	Wolsingham	35·27	28·63	6·64	— 19
,,	Northumberlnd	Haltwhistle (Unthank Hall)	35·97	37·56	1·59	+ 4
,,	,,	Rothbury (Cragside)	34·03	30·95	3·08	— 9
,,	,,	Pawston [Coldstream]	30·00	26·95	3·05	— 10
,,	Cumberland	Borrowdale (Seathwaite) *4in.g.*	129·00	152·53	23·53	+ 18
,,	,,	Carlisle Cemetery	30·34	32·01	1·67	+ 6
,,	Westmoreland	Kirkby Stephen	39·62	42·79	3·17	+ 8
XI.	Monmouth	Abergavenny (Larchfield)	38·65	27·99	10·66	— 28
,,	Glamorgan	Cardiff Castle	39·55	34·51	5·04	— 13
,,	,,	Neath	50·13	45·33	4·80	— 10
,,	Carmarthen	Llandilo (Dynevor Castle)	51·17	46·76	4·41	— 9
,,	Pembroke	Pembroke (Stackpole Court)	41·59	37·29	4·30	— 10
,,	,,	Castle Malgwyn [Llechryd]	45·29	41·95	3·34	— 7
,,	Brecknock	Brecknock (Cantreff) *o.g.*	51·27	41·47	9·80	— 19
,,	Radnor	Rhayader (Nantgwillt) *o.g.*	62·80	53·82	8·98	— 14
,,	Montgomery	Churchstoke (Mellington Hall)	32·07	27·46	4·61	— 14

ENGLAND & WALES.—*Continued.*

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1898.	Difference from average, 1880-9. Amount.	Per cent.
			in.	in.	in.	
XI.	Denbigh.....	Colwyn (Nant-y-Glyn)	31·55	30·84	·71	— 2
,,	Merioneth	Llanderfell (Palé)	47·47	45·44	2·03	— 4
,,	Carnarvon.....	Llanystumdwy (Talarvor) ...	36·53	40·86	4·33	+ 12
,,	Anglesea	LlanerchymeddLwdiarthEsgob	36·63	35·48	1·15	— 3
,,	Isle of Man ...	Douglas (Victoria Road)	40·60	37·44	3·16	— 8
,,	Scilly	St. Mary's	32·42	27·13	5·29	— 16
		SCOTLAND.				
XII.	Kirkcudbright.	Dalbeattie (Colvend Manse) ...	36·08	42·47	6·39	+ 18
,,	,, ...	Gatehouse (Cally)	49·15	47·11	2·04	— 4
,,	,, ...	Cargen [Dumfries]	39·74	49·12	9·38	+ 24
,,	Dumfries	Langholm (Ewes School)	52·81	55·15	2·34	+ 4
,,	,, ...	Moffat (Ericstane)	52·63	50·80	1·83	— 3
,,	Roxburgh	St. Boswells (Elliston)	28·73	22·61	6·12	— 21
XIII.	Berwick	Marchmont House	34·01	28·32	5·69	— 17
,,	Haddington ...	Haddington Asylum	26·24	25·11	1·13	— 4
,,	Edinburgh.....	Pentland Hills (Glencorse) ...	39·21	36·20	3·01	— 8
XIV.	Lanark	Biggar (Cambus Wallace).....	29·98	31·48	1·50	+ 5
,,	,, ...	Airdrie (Hillend Res.)	35·80	41·09	5·29	+ 15
,,	Ayr.....	Girvan (Pinmore)	48·25	44·98	3·27	— 7
,,	,, ...	Kilmarnock (North Craig) ...	35·77	46·10	10·33	+ 29
,,	Renfrew.....	Gorbals W.W. (Waulk Glen)..	43·32	51·00	7·68	+ 18
XV.	Dumbarton ...	Arrochar	74·10	74·02	·08	— 0
,,	Stirling	Stirling (Polmaise Gardens)...	33·79	34·30	·51	+ 2
,,	Bute	Rothesay (Barone Cottage) ...	46·04	46·58	·54	+ 1
,,	Argyll	Appin (Airds)	53·62	64·91	11·29	+ 21
,,	,, ...	Strontian (Laudale)	78·71	78·64	·07	— 0
,,	,, ...	Tarbert (Stonefield)	69·63	82·56	12·93	+ 19
,,	,, ...	Islay (Ardbeg)	45·25	50·05	4·80	+ 11
,,	,, ...	Mull (Quinish)	57·28	62·15	4·87	+ 9
XVI.	Fife	Beath (Outh)	33·30	37·85	4·55	+ 14
,,	Perth	Bridge of Turk	66·09	65·95	·14	— 0
,,	,, ...	Balquhidder (Stronvar).....	73·44	83·95	10·51	+ 14
,,	,, ...	Crieff (Ochtertyre).....	40·30	39·70	·60	— 1
,,	,, ...	Dunkeld (Inverbraan)	38·37	35·47	2·90	— 8
,,	Forfar	Broughty Ferry (Douglas Ho.)	27·27	26·49	·78	— 3
,,	,, ...	Kirriemuir (Lintrathen)	34·62	33·28	1·34	— 4
XVII.	Kincardine ...	Fettercairn (The Burn)..... .	33·07	33·75	·68	+ 2
,,	Aberdeen	Braemar	35·57	36·53	·96	+ 3
,,	,, ...	Cromar (Logie Coldstn. Manse)	28·62	29·04	·42	+ 1
,,	,, ...	Old Deer	30·57	31·27	·70	+ 2
,,	Banff	Keith	29·98	35·58	5·60	+ 19
,,	Elgin	Grantown	28·65	29·44	·79	+ 3
,,	Nairn	Nairn (School House)	22·61	26·84	4·23	+ 19
XVIII.	Ross, West ...	Strathconan [Beauly]	49·76	67·24	17·48	+ 35
,,	,, ...	Braemore House.....	57·94	79·71	21·77	+ 38

SCOTLAND—*Continued.*

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1898.	Difference from average 1880-9. Amount.	Per cent.
			in.	in.	in.	
XVIII.	Ross, East	Alness (Ardross Castle)	35·31	44·22	8·91	+ 25
,,	Inverness, West	Loch Shiel (Glenaladale)	104·18	133·02	28·84	+ 28
,,	,,	Glenquoich	102·64	141·84	39·20	+ 38
XIX.	Sutherland	Invershin	31·50	48·88	17·38	+ 55
,,	,,	Golspie, H.R.S.	30·47	30·29	·18	— 1
,,	Caithness	Watten, H.R.S.	27·01	32·81	5·80	+ 21
,,	Orkney	S. Ronaldshay (Roeberry)	31·61	54·26	22·65	+ 72

IRELAND.

XX.	Cork	Cork (Roche's Point)	46·46	41·90	4·56	— 10
,,	Kerry	Kenmare (Derreen)	67·99	60·20	7·79	— 11
,,	Waterford	Waterford (Brook Lodge)	38·31	36·54	1·77	— 5
,,	,,	Glenam [Clonmel]	42·15	38·49	3·66	— 9
,,	Tipperary	Derry Castle [Killaloe]	46·33	52·43	6·10	+ 13
,,	Limerick	Pallaskenry (Kilcornan)	30·76	34·49	3·73	+ 12
,,	Clare	Miltown Malbay	44·12	46·51	2·39	+ 5
XXI.	Wexford	Enniscorthy (Ballyhyland)	42·80	40·91	1·89	— 4
,,	,,	Gorey (Courtown House)	35·39	33·28	2·11	— 6
,,	Kilkenny	Inistioge (Woodstock)	41·67	39·35	2·32	— 6
,,	Wicklow	Bray (Fassaroe)	43·28	37·88	5·40	— 12
,,	Carlow	Carlow (Browne's Hill)	33·59	34·43	·84	+ 3
,,	King's Co.	Parsonstown (Birr Castle)	32·22	34·22	2·00	+ 6
,,	Dublin	Dublin (FitzWilliam Square)	27·47	27·05	·42	— 2
,,	West Meath	Athlone (Twyford)	38·97	35·13	3·84	— 10
,,	,,	Mullingar (Belvedere)	34·69	39·56	4·87	+ 14
,,	Louth	Dundalk (Farndreg)	29·30	30·68	1·38	+ 5
XXII.	Galway	Ahascragh (Clonbrock)	39·91	34·42	5·49	— 14
,,	,,	Tuam (Gardenfield) ..... 1 ft.	44·28	40·77	3·51	— 8
,,	Mayo	Crossmolina (Enniscoe)	51·41	54·36	2·95	+ 6
XXIII.	Cavan	Belturbet (Red Hills)	34·57	32·49	2·08	— 6
,,	Armagh	Armagh Observatory	32·16	31·76	·40	— 1
,,	Down	Warrenpoint (Summer Hill)	37·88	38·00	·12	+ 0
,,	,,	Seaforde	37·89	33·07	4·82	— 13
,,	,,	Banbridge (Milltown)	31·44	30·99	·45	— 1
,,	,,	Donaghadee	31·58	30·54	1·04	— 3
,,	Antrim	Belfast (Antrim Road)	34·57	34·74	·17	+ 0
,,	,,	Ballymena (Harryville)	39·41	38·77	·64	— 2
,,	,,	Bushmills (Dundarave)	37·87	34·64	3·23	— 9
,,	Londonderry	Garvagh (Moneydig)	39·02	35·99	3·03	— 8
,,	,,	Londonderry (Creggan Res.)	40·78	42·15	1·37	+ 3
,,	Tyrone	Stewartstown (The Square)	34·90	37·84	2·94	+ 8
,,	,,	Omagh (Edenfel)	36·63	40·38	3·75	+ 10
,,	Donegal	Buncrana (Rockfort)	40·71	41·51	·80	+ 2
,,	,,	Moville (Prospect Villa)	41·23	48·89	7·66	+ 19

RELATION OF RECENT YEARS TO THE AVERAGE.

YEARS.....	1890	1891	1892	1893	1894	1895	1896	1897	1898
ENGLAND AND WALES.									
I. London, Camden Square	d	w	d	d	w	d	..	d	D
II. Tenterden	..	..	..	..	w	d	..	d	D
,, Isle of Wight, Osborne	d	W	d	d	W	..	..	w	..
,, Newbury, Welford Park	d	W	d	d	W	..	..	..	d
III. Wisbech, Bank House	d	..	..	d	..	d	..	d	d
IV. Saffron Walden, Newport	..	w	..	d	..	..	..	..	d
,, Sprowston	..	..	w	d	..	..	..	d	d
V. Barnstaple, Arlington Court	..	..	d	..	w	..	d	w	..
,, Marazion	..	w	d	d	w	..	d	w	d
,, Glastonbury, Street	d	..	D	D	w	..	D	..	d
VI. Kington, Lynhales	D	..	D	d	w	d	D	..	D
,, Adderley Rectory	..	w	w	D	d	d	d	d	d
,, Burton, Shobnall	D	..	d	D	d	d	d	..	d
,, Northwich Park	D	..	D	D	d	d	d	..	d
,, Coventry, Priory Row	d	..	d	D	..	d	d	..	d
VII. Stubton [Newark]	D	..	d	D	d	d	d	d	D
VIII. Ormskirk, Rufford	..	w	w	..	..	d	..	..	..
IX. Knaresborough, Farnham	d	..	..	D	w	w	d	..	d
,, Pocklington, Warter	d	..	..	d	..	w	d	..	..
X. Darlington, Cleveland Parade	..	..	..	D	..	w	d	d	d
,, Pawston [Coldstream]	..	..	..	d	..	w	w	..	d
,, Borrowdale, Seathwaite	w	w	..	..	w	d	..	w	w
XI. Abergavenny, Larchfield	D	w	d	d	w	..	d	..	D
,, Pembroke, Stackpole Court	d	..	d	D	..	d	d	..	d
,, Rhayader, Nantgwillt	d	w	D	d	..	d	d	..	d
,, Landerfel, Palé	d	w	d	d	..	..	d	..	..
,, Llanerchymedd, Llwydiarth Esgob	w	w	w	d	w	..	..	..	..
,, Douglas, Victoria Road	..	w	..	d	w	d	..	w	..
SCOTLAND.									
XII. Gatehouse, Cally	..	..	..	d	..	d	..	w	..
,, Moffat, Ericstane	d	..	d	..	w	d	d	W	..
XIV. Gorbals, W. W., Waulk Glen	w	w	w	..	W	d	..	w	w
XV. Mull, Quinish	w	..	..	..	..	d	..	..	..
XVI. Bridge of Turk	..	..	..	d	..	D	d	..	..
,, Balquhidder, Stronvar	..	..	..	d	w	d	d	..	w
,, Broughty Ferry	..	..	..	d	..	..	d	..	..
XVII. Keith	w	..	w	w	w	w	w	..	w
,, Nairn, School House	w	..	w	w	w	w	..	d	w
XVIII. Braemore House	w	..	..	w	..	..	w	..	W
XIX. South Ronaldshay	..	..	w	w	d	..	w	..	W
IRELAND.									
XX. Kenmare, Derreen	..	..	..	d	..	..	d	..	d
,, Waterford, Brook Lodge	..	w	d	D	w	w	..	w	..
,, Derry Castle	..	..	..	d	w	d	..	w	w
,, Miltown Malbay	w	..	..	d	..	d	..	W	..
XXI. Gorey, Courtown House	d	w	..	D	..	..	d	..	..
,, Athlone, Twyford	d	..	..	d	..	d	..	..	d
XXII. Tuam, Gardenfield	d	..	..	d	..	d	..	w	..
,, Enniscoe	..	..	..	d	W	..	..	w	..
XXIII. Seaforde	d	..	..	D	..	..	..	..	d
,, Ballymena	..	..	..	..	..	..	..	..	..
,, Omagh, Edenfel	..	w	..	..	w	..	..	W	w

EXTREMES OF RAINFALL IN 1898.

Largest Rainfall, at Ben Nevis Observatory ..... 240·05 in.
Least Rainfall, at Barking Outfall, Essex ..... 13·04 ,,

ENGLAND.

Greatest.			Least.		
Div.		in.	Div.		in.
X.	The Stye, C	208·45	IV.	Barking Outfall	13·04
,,	Styehead Tarn	154·80	II.	Dungeness.....	13·59
,,	Seathwaite	154·48	,,	Higham (Oakleigh)	13·96
,,	Sprinkling Tarn	147·30	IV.	East Ham.....	14·08
,,	Mickleden.....	143·93	,,	Manor Park (Albany Rd.)...	14·09
,,	Ullscarf.....	131·60	,,	Romford (North Ockendon).	14·59

MONMOUTH, WALES AND THE ISLANDS.

Greatest.			Least.		
Div.		in.	Div.		in.
XI.	Bl.Ffestiniog (Cwmorthin) ...	126·92	XI.	Rhyl (Sedgley House)	21·98
,,	Dolgelly (Dolmelynllyn)	105·10	,,	Bagillt Lead Works	22·22
,,	Rhiwbryfdir=OakleyQuarries	104·75	,,	Rosset (Trevalyn Hall)	23·22
,,	Garthbibio (Bwlch Tomlyd)...	101·00	,,	St. Asaph (Nantllys)	23·36
,,	TaffFechan(NeuaddRes.)No.6	91·31	,,	Gresford (Trewythen)	23·55
,,	Glyncorrwg	90·30	,,	Llandwyn Island	23·68

SCOTLAND.

Greatest.			Least.		
Div.		in.	Div.		in.
XVIII.	Ben Nevis Observatory	240·05	XVI.	Arbroath (Dishland Hill).....	18·67
,,	Glenquoich	141·84	XIII.	West Foulden.....	19·24
,,	Loch Shiel (Glenaladale) ...	133·02	XII.	Kelso (Springwood Park) ...	19·77
XV.	Loch Eil (Conaglen)	118·11	XIII.	Leith	19·86
XVIII.	Glencarron Lodge	114·10	XVI.	Arbroath Water Works	20·45
,,	Skye (Strathaird).....	113·63	XIII.	Davidsons Mains (Broomfield)	21·25

IRELAND.

Greatest.			Least.		
Div.		in.	Div.		in.
XX.	Mangerton	88·50	XXIII.	Banbridge(CorbetReservoir)	25·83
XXII.	Clifden (Kylemore House)...	81·28	,,	,, (Katesbridge)	26·02
XX.	Gap of Dunloe (Garrymeen)	76·20	XXI.	Victoria Lock [Meelick] ...	26·85
XXII.	Clifden (Kylemore Castle)...	75·82	,,	Dublin (FitzWilliam Square)	27·05
XX.	Dunmanway (Coolkelure) ..	69·27	,,	Rathmines (Leinster Road)..	27·55
,,	Inagh (Mount Callan).....	65·83	XXIII.	Cavan Water Works	27·70

NOTE.

Second gauges, and those at Lighthouses, are excluded from the above, and in selecting the minima, no record is used from any gauge of which the receiving surface is more than 3 ft. above the ground.

NOTES ON THE TABLE OF EXTREMES.

FOR many years the preceding table has contained the six largest and the six smallest total falls of rain in England, Wales, Scotland, and Ireland,—but no record with a ? is inserted, one only where there are several gauges close together, none from a gauge which is more than 3 ft. above the ground, and none from a lighthouse.

The English greatest are from stations almost identical with those for 1897, but it is rare for these stations to be displaced.

The English least are also from localities often represented in this list, but the amounts are extremely small. The English minimum of 13·04 in. at Barking Outfall is remarkably low. Almost, if not quite, the least total recorded in the British Isles in any year by an accurate gauge within 3 ft. of the ground level.

Looking back, through a series of our volumes, the lowest we have seen is 12·01 in. at Horseway Lock, Cambridgeshire, in 1884, but that should not have been inserted as an extreme, because the gauge is 15 ft. above the ground; the true minimum for 1884 was 13·57 in., at Spurn Head, Patrington, Yorks. A lower value was, however, recorded in 1890, viz.. 13·10 in. at Sutton by the Sea, Alford, Lincolnshire, but the 13·04 in. at Barking in 1898, beats it. A little suspicion always attaches to extreme values, but an examination of the Essex returns (and of Crossness, on the other side of the river) will shew that it is strongly supported.

The Dungeness record is almost equally remarkable, for though not in a dry district, it was the driest English station in 1897 with 16·17 in.; and in 1898 was second driest with 13·59 in., or an average of 14·88 in. for the two years.

The Welsh greatest are, as usual, from different parts of the Principality, but several of them are from stations always in this list. "Cwmorthin" is a new name for the station previously called "New Welsh Slate Quarries."

The Welsh least are from stations almost identical with those in 1897, and in previous years.

The Scotch greatest are very high, in fact, it is hard to say what limit is to be put to Ben Nevis, which, with a fall of 155·78 in. for 1897, gives the enormous total of 240·05 in., or about 84 in. more for 1898. After this, the large excesses of 30 and 36 inches at Glenaladale and Glenquoich sink into insignificance.

There is nothing noteworthy about the Scotch minima, they are not very small, and are in localities where small falls are usual.

The Irish extremes do not present any exceptional features. The Killarney and Kylemore stations maintain their precedence for wetness, and Dublin, as usual, is among the driest.

GENERAL TABLES

OF

TOTAL RAINFALL IN 1898,

AT MORE THAN

3000 STATIONS

IN THE

BRITISH ISLES.

EXPLANATION OF THE ARRANGEMENT OF THE FOLLOWING GENERAL TABLES.

The divisions are the same as those adopted by the Registrars General of England and Scotland, and the counties follow the same order as in the reports of those officers; but an alphabetical list of the counties is given, whereby the page or pages on which all returns from each county will be found, can be at once ascertained.

The stations in each county are arranged nearly in the order of their latitude from South to North.

To facilitate finding the locality of any gauge, the first name is almost always that of a place given in *Bradshaw*, the *Post Office Guide*, or the *Clergy Directory*; the second name is generally added to fix accurately the site of Observation; but, in a very few instances, when in [ ] instead of ( ), it is that of the nearest town in an adjoining county; *e.g.*, "Haslemere (Weycombe)" means Weycombe near Haslemere, both in one county; but "Geldeston [Beccles]" means Geldeston, Norfolk, near Beccles, in another county—Suffolk.

The contents of the columns are sufficiently explained by the headings, except that in that headed "diameter," figures will be noticed of old-style type; these figures indicate the length of the sides of rectangular mouthed gauges. These measurements are all in inches.

The letter D denotes that a copy of the daily record has been received, that it is perfect throughout the year, and that the printed amount is the correct total of these daily entries. The letter M indicates that the gauge is read only on the first of each month.

A few entries of total rain will be found in italics—indicating uncertainty either as to possible overflow, or as to the measurement of snow.

An asterisk * denotes that the gauge was tested before erection, and a † that it has been visited and examined since. A note of interrogation (?) implies doubt, not necessarily error. ... indicates the absence of information.

In the column of altitudes several symbols are used, their meaning is as follows:—Ⓣ, that a series of levels has been taken from the gauge to an Ordnance bench mark; T, that the height is estimated or ascertained approximately from the same source; L, that levels have been taken from the gauge to the sea, or to some datum other than Ordnance mean sea level; B, that the altitude has been taken by the barometer; and ?, that the height is uncertain.

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ENGLAND AND WALES.

DIVISION I.—MIDDLESEX.

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
MIDDLESEX.						
D Hampton (Southwark W. W.)...	J.W.Restler, Esq.,C.E.	5	2 0	...	16·13	113
Sunbury (Hanworth Road)	W.B.Bryan, Esq., C.E.	8	1 0	50 ↑	19·33	165
Teddington (Gomer House)	R. D. Blackmore, Esq..	5	0 10	26 ↑	18·90	137
D Staines (Belle Vue)	J. Gundry, Esq.....	5	1 0	51 ↑	19·75	150
,, (Cambria House)	C. Ashby, Esq.	5	1 0	50?	18·97	123
,, (Knowle Green).....	Miss Pellatt	5	5 2	...	19·67	130
Twickenham (Hampton Road)..	T. Gale, Esq.	5	1 3	37 ↑	17·91	142
Isleworth (Spring Grove House).	Mr. W. Farr	5	1 0	...	20·56	...
D Chelsea (Pumping Station)	Sir A. R. Binnie, C.E...	8	1 0	19 ↑	16·52	118
D ,, (St. Luke's Gardens) ...	TWE.Higgens, Esq. CE	5	1 0	25 ↑	17·41	150
D Isle of Dogs	Sir A. R. Binnie, C.E....	8	1 0	15 ↑	16·07	127
D Acton (Newburgh Road)	Miss Baker	5	1 0	86 ↑	18·44	144
Ealing (Public Buildings).....	C. Jones, Esq., C.E. ...	5	9 0	114	16·59	137
,, (Gordon Road)	J. Box, Esq.	5	10 0	85 ↑	15·90	124
,, (Castle Bar Road).....	T. Simpson, Esq.	5	1 0	152	20·48	134
Westminster (Spring Gardens)(3)	Sir A. R. Binnie, C.E...	8	6 0	35 ↑	15·19	...
,, (,, ,,)(1)	,, ,, ,, ...	8	66 4	95 ↑	14·85	...
,, (,, ,,)(2)	,, ,, ,, ...	12	65 11	95 ↑	14·77	...
D Kensington (Edith Road).....	G. von U. Searle, Esq.	5	0 10	16 ↑	17·70	146
D ,, Museum	Genl. Festing, F.R.S..	8	0 8	27 ↑	18·45	156
D ,, (Holland House) ...	Mr. C. Dixon	5	4 6	68 ↑	17·58	138
D ,, (Addison Gardens)...	G. H. M. Whish, Esq..	5	1 1	23 ↑	18·28	145
D ,, (Campden Hill).....	M.W.Hervey, Esq.,C.E.	8	4 10	130 ↑	18·06	145
D London (Westbourne Grove, W.)	A. P. Baker, Esq.	5	0 9	64 ↑	18·49	143
D ,, (Strand, W.C.)	J. J. Steward, Esq. ..	5	45 0	80	19·82	130
,, (Guildhall, E.C.)	D. J. Ross, Esq., C.E..	8	2 6	49 ↑	16·21	111
,, (,, ,,)	,, ,, ,, ...	8	51 0	98 ↑	15·66	111

DIVISION I.—MIDDLESEX.—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
MIDDLESEX—(*con.*)						
D London (Mile End, E.)	J. Metson, Esq.	5	10 0	...	18·27	117
D ,, (City Road)	J. Bigwood, Esq., M.P.	5	1 2	...	17·14	106
,, (Old Street, E.C.)	The Royal Meteor. Soc.	5	1 0	70 T	16·55	147
Perivale (Sewage Farm)	C. Jones, Esq., C.E.	5	12 0	56	14·30	128
D London (Regent's Pk. R.Bot.Soc.)	J. B. Sowerby, Esq.	8	1 0	126 ⅄	18·10	138
D ,, (Hamilton Terrace)	Miss Cobb	5	0 11	...	18·94	154
D ,, (Barrow Hill, N.W.)	M.W.Hervey, Esq., C.E.	5	3 4	190 ⅄	16·08	131
D ,, (Old Ford, E.)	Sir A. R. Binnie, C.E.	8	1 0	35 ⅄	15·03	122
D† ,, (Camden Square, N.W.)	G.J.Symons, Esq. F.R.S	8	0 8	111 ⅄	17·69	140
† ,, (,, ,,) M	,, ,, ,,	5	1 0	111 ⅄	17·57	...
D Willesden Green (Strode Road)	Miss Lamport	5	1 0	150	19·01	173
D Hampstead (Kidderpore Reserv.)	M.W.Hervey, Esq., C.E.	8	1 6	323 ⅄	19·33	136
† ,, (Squire's Mount)	Rogers Field, Esq. C.E.	5	1 0	388 ⅄	17·17	124
,, (The Pryors)	,, ,, ,, ,,	5	1 0	327 ⅄	17·04	140
Lea Bridge	W. B. Bryan, Esq., C.E.	8	1 0	23 ⅄	15·89	138
Upper Clapton	,, ,, ,,	8	1 0	...	17·91	135
D Finsbury Park (New River Works)	E. L. Morris, Esq., C.E.	5	1 0	101 ⅄	20·21	143
D Stoke Newington (,, ,, ,,)	J. Francis, Esq., C.E.	5	1 2	102 ⅄	16·95	134
D Highgate (North Hill)	E.J.Lovegrove, Esq., CE	5	4 6	302	18·20	132
†Child's Hill (Helenslea)	A. J. Woodhouse, Esq.	5	1 6	245 T	17·82	142
Harrow	T. Charles, Esq.	5	1 0	215	18·00	152
Crouch End (Aubrey Road)	W. B. Butler, Esq.	5	1 0	140	18·82	143
D ,, ,, (Fairfield Rd.) *gardn.*	Mrs. Sowerby Wallis	5	1 0	144 T	18·86	148
,, ,, (,, ,,) *tennis ct.* M	,, ,, ,,	4	1 0	144 T	18·61	...
D Hornsey (High Street)	E.J.Lovegrove, Esq., CE	6	3 2	97	19·79	134
D Muswell Hill	Miss Abethell	5	0 10	310 T	19·52	163
D ,, ,, (Irish Corner-Sew. Farm)	E.J.Lovegrove, Esq., CE	8	4 8	216 ⅄	20·93	145
D Hendon (Hillwood)	W. H. Kesteven, Esq.	5	1 0	191 ⅄	18·43	169
D Wealdstone House	Miss M. M. Cobb	5	0 11	236 T	17·00	136
D ,,	G. E. Eland, Esq.	5	1 0	180	16·02	152
D† Finchley (Etchingham Park)	J. W. Scott, Esq.	5	1 2	295 T	18·81	158
D† ,, (,, ,,)	,, ,, ,,	8	1 3	295 T	18·88	158
D Harrow Weald (Hill House)	A. Crossman, Esq.	5	0 8	280	19·39	190
D Uxbridge (Harefield Park)	Mr. W. Batchelor	5	0 10	290	16·81	117
D Friern Barnet (Sewage Works)	Baldwin Latham Esq CE	5	1 0	156 ⅄	16·56	136
D Whetstone	,, ,, ,,	5	1 0	315 ⅄	18·48	142
D Enfield (Old Park)	A. L. Ford, Esq.	5	1 9	156 T	16·97	142
D ,, (Southbury Road)	J. Francis, Esq., C.E.	5	0 9	106 T	16·70	145
D Barnet (Trent Park)	Mr. W. H. Lees	5	1 0	254	18·32	130

DIVISION II.—SOUTH EASTERN COUNTIES.

SURREY.						
D Haslemere (Lower Street)	J. W. Penfold, Esq.	8	4 0	481 ⅄	31·45	148
D ,, (Hazelhurst)	T. P. Newman, Esq.	5	1 0	550 T	32·42	180
,, (Grayswood Hill)	B. E. C. Chambers, Esq.	5	1 0	580 ⅄	27·64	...
D Chiddingfold	A. F. Parbury, Esq.	5	1 0	174 T	26·98	146

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	Height Above Ground in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
SURREY—(*con.*)							
D Chiddingfold (Beaconscroft)	Adl. Maclear	5	1	0	230	24·04	159
Dunsfold Rectory	Rev. W. H. Winn	5	1	0	170	22·91	...
Haslemere (Weycombe)	G.B.Buckton,Esq.FRS.	5	1	0	562 ⅄	28·67	...
D Hambledon (Matteryes)	J. Borrowman, Esq.	5	5	8	300	24·24	163
D Witley (Fernside)	Mrs. Foster	5	1	0	350 ⊺	24·07	156
Hascombe Rectory	Rev. Canon Musgrave	8	1	0	450 ⊺	22·36	...
,, (Hall Place)	E. L. Rowcliffe, Esq.	8	2	6	273 ⅄	21·46	...
D Cranleigh Common(Homefield Cott.)	A. F. Jones, Esq.	5	1	2	175 ⊺	22·46	148
,, ,,	W. Welch, Esq.	5	1	0	132 ⅄	23·39	...
D ,, (County School)	The Royal Meteor. Soc.	5	1	0	232 ⅄	22·49	164
D ,, (Winterfold)	Mr. R. Turvey	8	3	6	603 ⊺	25·21	121
D Ewhurst (Malquoits)	W. Webb, Esq.	5	1	6	400	23·82	158
D ,, (Coneyhurst)	Miss Ewart	8	1	0	561 ⊺	23·53	155
D ,, (Heathside)	J. Sparkes, Esq.	5	1	6	600 ⅄	24·54	110
,, (Woolpits)	Mr. H. W. Perrin	5	1	0	...	24·66	...
Felbridge Place	Dr. C. H. Gatty	8	1	0	305	22·80	142
D Capel (The Cottage)	J. Lee Jardine, Esq.	5	1	0	270	23·81	151
Bramley (Grafham Grange)	J. C. McAndrew, Esq.	8	1	2	190	21·29	...
Godalming (Northanger)	P. N. Graham, Esq.	5	1	0	400 ⊺	23·08	...
D ,, (Hurtmore Lane)	O. H. Latter, Esq.	5	1	0	310 ⅄	23·73	160
D Wonersh (Shamley Green)	Mr. A. Nash	5	1	0	400	23·65	154
D Bramley (Cloverlea)	J. Bartlett, Esq.	5	1	0	147	24·89	167
D Abinger Rectory	F. C. Bayard, Esq.	5	1	0	381	24·82	149
D ,, Hall	Rt. Hon. Lord Farrer	8	2	0	320 ⊺	24·98	152
D Farnham (The Bourne Vicarage)	Rev. T. W. Sidebotham	5	1	0	308 ⅄	23·17	162
D ,, Castle	Mr. H. Dowding	8	1	0	300	20·40	103
D ,, (Hampton Lodge)	Mr. J. Foster	5	1	0	...	24·40	162
D ,, (Great Down, Seale)	Mrs. Kitchin	8	1	0	490	22·18	130
Dorking (Fir Tor)	F. Taylor, Esq.	5	1	0	260	24·25	...
,, (Woodcote)	Stanley Single, Esq.	5	1	0	310 ⊺	24·59	145
,, (West Street)	Mrs. W. A. Marsh	10	26	0	224 ⊺	20·53	126
D ,, (The Denbies)	Mr. J. Beesley	5	0	9	610 ⊺	25·14	139
D Brockham (North Lodge)	H. R. Kempe, Esq.	8	0	9	...	21·48	108
D Guildford (Epsom Road)	Miss Johnston	5	0	11	...	24·09	146
D ,, (Listoke)	Genl. Battersby	5	1	0	...	22·25	134
D ,, (Craigie, Merrow)	Miss Lomer	5	0	9	250 ⊺	23·29	131
D Reigate (Hartswood)	R. W. Clutton, Esq.	5	1	0	174	19·45	133
D ,, (Woodhatch Lodge)	T. B. Haywood, Esq.	5	1	0	270 ⊺	21·33	149
D ,, (Ringley Mead)	R. L. Hesketh, Esq.	5	1	0	345 ⊺	23·80	157
D Earlswood (Sewage Farm)	W. H. Prescott, Esq., CE	8	1	0	196 ⅄	20·70	124
D† Red Hill (Oxford Road)	W. H. Tyndall, Esq.	8	1	0	300 ⅄	22·59	150
D ,, ,, (Trevor Lodge)	W. A. Gunner, Esq.	5	1	0	...	23·33	168
Reigate (Aldersyde)	H. Rosling, Esq.	5	0	10	...	25·59	148
D ,, (Castle Grounds)	W. H. Prescott, Esq., CE	5	1	6	350 ⅄	23·84	143
D ,, (The Briars)	F. C. Bayard, Esq.	5	1	0	430	22·96	154
D ,, (Doods)	G. E. Pym, Esq.	5	1	3	350 ⅄	22·84	152
D ,, (Nutwood)	H. E. Gurney, Esq.	5	0	9	440 ⊺	21·99	152
Nutfield Priory	Mrs. Fielden	8	1	2	468 ⅄	21·65	168

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	SURREY—(*con.*)						
	Nutfield Priory	Mr. J. Moffat	8	1 2	431 T	23·03	173
D	,, (Holmesdale)	C. T. Maw, Esq.	8	2 0	500 T	21·99	155
D	Dorking (High Ashurst)	The Hon. H. D. Ryder	5	10 0	550	23·51	133
D	Merstham (Rockshaw)	F. C. Bayard, Esq.	5	1 0	475	23·34	150
D	,, (Harp's Oak Cottage)	,, ,, ,,	5	1 0	454	23·59	166
D	Upper Gatton	F. Druce, Esq.	5	1 0	601	23·91	168
D	Bookham Lodge	Hon. Rev. H Waldegrave	8	0 7	140	20·91	138
	Horsley, West	Sir H. E. Roscoe, F.R.S.	7	0 6	240	25·14	...
D	,, Towers	Capt. Hon L F King-Noel	8	1 2	300 ⊼	23·76	117
	,, (Woodcote Lodge)	Sir H. E. Roscoe, F.R.S.	7	0 6	650	25·58	...
D	Send (Woodhill)	Col. Curzon	5	0 10	...	21·21	117
D	Pirbright Camp	Sergt. Elwick	5	1 0	201 T	20·17	138
	Leatherhead (Downside)	A. Tate, Esq.	5	1 0	250	22·77	...
D	Chaldon Rectory	F. C. Bayard, Esq.	5	1 0	542	24·22	139
D	Chipstead (Shabden Park)	,, ,, ,,	5	1 0	550	23·40	157
	Frimley Green	F. W. Talbot, Esq.	5	9 0	220 ⊼	19·03	129
D	Caterham Asylum	Dr. Elliot	5	1 0	610 ⊼	24·93	130
D	Coulsdon Grange	F. C. Bayard, Esq.	5	1 4	525	20·94	151
D	Warlingham Vicarage	,, ,, ,,	5	1 0	614	25·19	157
D	Kenley (Hazelea)	Mrs. Carr Dyer	5	1 0	282	23·78	159
	Ashtead (D'Abernon Chase)	Sir W. Vincent, Bart.	5	1 0	280 T	19·61	130
D	Pyrford Vicarage	Rev. T. M. Ridsdale	5	0 7	105 T	20·48	110
D	,, (Pyrford Croft)	H. W. Page Phillips, Esq.	5	1 6	...	24·10	150
D	Horsell (Lindisaye)	H. Horncastle, Esq.	5	4 2	130 T	20·25	148
	,, (,,) M	,, ,, ,,	5	0 9	130 T	20·32	...
D	Oxshott	W. H. Dines, Esq.	5	1 0	206 ⊼	19·04	147
	Banstead (The Larches)	Rev. C. J. Taylor	8	1 0	488 T	23·11	161
D	Camberley (Brackendale)	Mr. J. Bryan	5	1 0	267 T	21·42	160
	Chelsham (Fairchildes)	A. S. Daniell, Esq.	8	1 0	600 T	22·00	...
	,, (,,)	Mr. G. Mansfield	5	0 10	600 T	23·32	...
D	Purley (Tudor Cottage)	F. C. Bayard, Esq.	5	1 0	216 ⊼	26·17	151
D	Chobham (The Elms)	Mrs. Brown	5	2 3	98	23·92	148
D	Chertsey (Ottershaw)	R. H. Otter, Esq.	5	1 0	200 T	21·52	161
D	Windlesham (Erlwood)	E. S. Currey, Esq.	5	1 0	216 ⊼	19·43	153
	,, (Woodside)	J. Williams, Esq.	5	0 8	200 ?	20·63	...
D	Weybridge (Field Place)	G. A. Yool, Esq.	5	1 0	119 ⊼	20·40	142
	,, (,, ,,) M	,, ,, ,,	5	1 0	110	20·80	...
D	,, (Heath Field)	Miss A. T. Gardiner	5	1 0	...	20·55	136
D	,, (West Oaks)	A. Whittet, Esq.	5	1 0	36 T	19·81	153
D	Esher (Sewage Works)	F. C. Bayard, Esq.	5	1 0	42 ⊼	18·90	144
D	Addington (Hares Bank)	,, ,, ,,	8	1 0	331 ⊼	22·44	171
D	,, (Park Farm)	,, ,, ,,	5	1 0	268 ⊼	22·97	142
D	,, Hills	,, ,, ,,	8	0 9	473 ⊼	21·14	167
D	Wallington	,, ,, ,,	5	4 1	140 ⊼	20·27	148
D	Sutton (Sewage Works)	C. C. Smith, Esq.	8	1 0	94 ⊼	19·31	136
D	Carshalton (Sewage Works)	Baldwin Latham Esq C.E.	5	1 0	118	18·99	117
	Beddington (Riverside)	The Royal Meteor. Soc.	5	1 0	120	20·09	142
	Croydon (Heathfield Road)	J. Glaisher, Esq., F.R.S.	8	0 5	185	19·30	125

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
	SURREY—(*con.*)							
D	Croydon (Duppas House)	Baldwin Latham Esq C.E.	8	1	0	158	20·40	159
D	,, (Waddon House)	P. Crowley, Esq.	5	1	0	156 ⅄	19·24	155
D	,, (Waddon New Road)	G. Corden, Esq.	5	1	0	146	19·89	150
D	,, (The Whitgift)	F. C. Bayard, Esq.	5	1	0	191 ⅄	20·94	158
D	,, (Woburn Road)	,, ,, ,,	5	1	1	178	20·73	163
D	,, (Brimstone Sew. Works)	,, ,, ,,	5	1	0	130 ⅄	18·35	115
D	,, (Park Hill Rise)	H.F. Parsons, Esq., M.D.	5	1	3	240	19·63	156
D	Worcester Park (Parkside)	F. L. Sutton, Esq.	5	1	0	80	20·52	146
D	New Malden (Sewage Works)	F. C. Bayard, Esq.	5	1	0	45	17·02	116
	Thornton Heath (Thornton Rd.)	A. Wright, Esq.	8	0	9	130	18·31	...
	Chertsey (Flutters Hill)	F. A. Baker, Esq.	5	5	0	200 T	18·59	...
	,, (Burley Orchard)	W. A. Herring, Esq.	5	1	6	30	18·73	...
D	Thames Ditton (Weston Green)	Mr. T. H. Potter	8	1	0	35 T	18·78	148
D	,, ,, (Giggs Hill)	W. A. Hardwick, Esq.	5	1	2	35 T	19·26	126
	Surbiton (Seething Wells)	R. Hack, Esq., C.E.	10	0	6	25	18·55	136
D	,, (Vronvelin)	F. Barclay, Esq.	5	1	0	50	19·04	139
D	East Molesey (Palace Road)	Lady Jenkyns	5	5	0	37	17·96	155
	West Molesey	R. Hack, Esq., C.E.	5	1	0	32 ⅄	18·62	136
D	St. Ann's Heath (Sanatorium)	Rev. J. Peck	8	1	1	120	18·34	129
D	Kingston Sewage Works	F. C. Bayard, Esq.	5	1	0	25	19·88	133
D	Wimbledon (Mount Ararat)	T. Devas, Esq.	12	3	0	157 T	18·97	149
	,, (Raynes Park)	C. H. Cooper, Esq.	5	1	3	48	19·23	168
D	,, (Sewage Works)	,, ,, ,,	5	1	0	58 ⅄	16·63	149
D	,, Common (Richmond Ho.)	E. Rawlings, Esq.	5	1	3	175 ⅄	19·55	153
	,, Park (Woodhouse)	A. E. Bateman, Esq.	5	1	6	150	20·37	151
D	South Norwood (Apsley Road)	F. C. Bayard, Esq.	5	1	0	125	17·72	122
D	West Norwood (Thornlaw Road)	W. Marriott, Esq.	8	1	0	221	19·00	165
	Streatham (Woodfield Avenue)	F. Jordan, Esq.	5	1	0	120 T	17·67	174
D	Dulwich Wood Park	H. V. Caldicott, Esq.	5	1	2	276	18·92	133
D	Wandsworth Com. (Patten Rd.)	F. C. Bayard, Esq.	5	1	0	100	18·44	161
	Egham (Coopers Hill)	The Meteor. Council	8	1	1	280	18·82	162
	Putney Heath	R. Hack, Esq., C.E.	5	1	6	180 ⅄	18·34	153
D	Richmond (Ormond Lodge)	J. T. Billett, Esq.	5	0	9	51	19·40	155
D	Kew Observatory	The Kew Committee	11	1	9	19 ⅄	18·22	139
	Putney Vale Cemetery	Mr. F. Pain	5	1	0	84 T	18·06	130
D	Clapham Park (New Park Road)	D. W. Horner, Esq.	5	1	3	128 T	16·98	138
	Brixton (Acre Lane)	The Meteor. Council	8	1	0	77 T	17·82	139
D	Nunhead (Southwark W. W.)	J. W. Restler, Esq., C.E.	5	4	0	176	14·76	123
D	Battersea Creek (York Road)	Sir A. R. Binnie, C.E.	8	26	9	41 ⅄	14·81	130
D	,, (Southwark W. W.)	J. W. Restler, Esq., C.E.	5	3	6	21	13·94?	122
D	Vauxhall Cross (Wandsworth Rd.)	Sir A. R. Binnie, C.E.	8	30	5	48 ⅄	14·98	123
	KENT.							
	Dungeness	The Meteor. Council	8	1	3	75 T	13·59	139
	Wittersham	J. Body, Jun., Esq.	5	1	6	156	20·36	...
D	Hawkhurst (Sandhurst Rectory)	Rev. G. Ridout	5	1	3	208 ⅄	21·81	135
	Dymchurch Rectory	Rev. C. E. Plater	8	1	6	5	18·13	...
	Tenterden (Summerhill)	Rev. A. Wilkin	12	1	0	149 ⅄	18·56	152

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
KENT—(*con.*)						
Benenden (Pullington)	H. Neve, Esq.	5	1 0	330	21·54	151
,, (East End)	J. Ellis Mace, Esq.	8	1 2	193 ⅄	20·81	...
D Tenterden	,, ,, ,,	8	1 5	190 ⅄	20·87	162
D ,, ... *Snowdon*	,, ,, ,,	8	1 5	190 ⅄	20·44	150
,, (Little Westwell)	W. Hilder, Esq.	5	1 0	140 T	21·48	104
,, (Ashbourne Mills)	A. Pinyon, Esq.	5	1 0	45	21·39	...
D Woodchurch	Rev. A. Welch	5	5 0	107	20·22	108
D†Hythe	Messrs. Mackeson & Co.	8	0 6	12 T	21·50	161
,, (Saltwood)	Rev. H. M. Spooner	8	2 6	200 T	22·41	132
† ,, (Hillhurst Farm)	G. F. Deedes, Esq.	5	2 0	280 T	24·56	159
D Sandgate	A. R. Bowles, Esq., C.E.	5	1 0	56 ⅄	21·39	136
Cranbrook (Swattenden)	Miss Appach	8	1 2	350 T	21·73	137
† ,, (Hartley)	G. Pile, Esq.	5	4 0	405 T	22·23	147
Goudhurst (Scotney Castle)	E. W. Hussey, Esq.	5	4 0	203 ⅄	19·60	...
†Folkestone (Sanatorium)	The Royal Meteor. Soc.	5	1 0	110	22·57	124
† ,, (Radnor Park)	J. W. Stainer, Esq.	5	1 0	129 T	22·29	126
D† ,, (Cherry Gardens)	H. Turner, Esq.	8	3 6	140 ⅄	22·93	134
† ,, (Capel Lodge)	E. Norton, Esq., M.D.	5	1 0	480 T	22·15	141
D Hythe (Frogholt)	G. Lipscomb, Esq.	5	1 0	186 T	25·11	118
† ,, (Paddlesworth)	Mrs. Dixon	8	1 0	608 ⅄	29·83	...
D†Dover (Water Works)	H. E. Stilgoe, Esq., C.E.	5	1 6	189 T	22·19	118
†Kearsney Abbey	Mr. E. Cartwright	5	1 0	94 T	25·71	145
Acrise Place	Miss Mackinnon	5	1 0	484 ⅄	30·95	...
D† ,, (School House)	G. C. Woollett, Esq.	8	1 0	504 ⅄	33·25	139
D Ashurst (Stone Ness)	S. Poyntz Wright, Esq.	5	1 0	320 T	21·23	146
D Tunbridge Wells (Camden Park)	J. Weston, Esq.	5	0 9	424 ⅄	23·68	157
D ,, ,, (BelvedereTer.)	Rev. G. E. Alexander	5	1 0	410	22·25	132
,, ,, (Bredbury)	F. G. Smart, Esq.	5	1 0	416 T	23·39	152
D Cranbrook (Camden Lodge)	Mr. A. Habbitts	5	1 0	276 T	21·39	142
D Ashford (Bethersden)	W. H. Mold, Esq.	5	4 0	111 ⅄	21·05	138
D ,, (Beavor Green)	T. Nickalls, Esq.	5	1 0	155 T	22·53	154
Horsmonden (Broad Ford House)	Col. Courthope, C.B.	5	2 6	101 T	27·19	145
D ,, (Sprivers)	,, ,, ,,	5	3 6	230	21·67	163
Elham Vicarage	Rev. W. Wodehouse	5	1 3	300	24·03	142
D Tunbridge Wells (Etherton Hill)	E. W. Winton, Esq.	5	1 5	276 ⅄	19·03	110
D ,, ,, (Pembury)	T. E. W. Mellor, Esq. C.E.	8	1 8	181 ⅄	20·11	126
Staplehurst (Saynden Farm)	J. Norris, Esq.	5	1 4	310 T	21·25	122
D Chiddingstone Rectory	Rev. J. T. Pearse	5	0 5	170	18·68	144
Tunbridge (Penshurst Place)	Mr. F. Bridger	5	1 0	...	20·13	...
D ,, (,, Park)	Mr. J. M. Sturgess	5	0 4	265 T	23·30	142
,, (Primrose Hill)	G. I. Kimmins, Esq.	5	0 10	175 ⅄	20·06	123
D ,, (Beech Hurst)	W. C. Punnett, Esq.	5	1 6	102 ⅄	21·22	125
,, (,, ,,) *Snowdon*	,, ,, ,,	5	1 6	102 ⅄	20·78	125
,, (,, ,,) .....M	,, ,, ,,	8	4 0	105 ⅄	20·92	...
D Ashford (Westwell)	Rev. H. H. D'Ombrain	5	1 0	272	22·12	123
D ,, (,, Monkery)	F. Kingsnorth, Esq.	5	4 6	625 ?	19·88	140
D Edenbridge (Falconhurst)	Rt. Hon. J. G. Talbot, MP	5	1 0	300	23·20	124
D Deal and Walmer W. W.	A. Mantle, Esq.	12	1 0	100 ⅄	20·53	124

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
KENT—(*con.*)						
Wye (Bilting)	Mr. A. H. Briggs	6	1 3	158	26·43	127
D Hadlow	F. W. E. Shrivell, Esq.	5	1 0	100	18·25	134
D Maidstone (Linton Park)	Mr. C. Pratt	5	1 0	...	20·08	126
D ,, (Lower Tovil)	Lawrence Green, Esq..	5	1 0	30 L	18·28	133
D ,, (Mount House)	C. A. Case, Esq	5	1 0	160 T	20·77	135
D ,, Hospital	M. A. Adams, Esq.	5	0 8	200	*17·43*	104
D ,, (Bearsted)	Rev. A. L. Brine	5	1 1	130 ?	24·10	186
Eastry (Great Walton)	W. V. Lister, Esq.	5	1 0	25 T	19·53	132
D East Malling (Broadwater)	C. B. Mercer, Esq.	5	1 6	169	21·56	125
D West Malling (St. Leonards)	G. Phillips, Esq.	5	1 0	...	22·29	156
,, ,, (Wistaria House)	F. G. Busbridge, Esq..	5	1 2	160 T	21·28	154
D Debtling	R. Cooke, Esq.	5	1 2	330 T	22·89	166
Aylesford (Preston Hall)	Mr. W. Jarman	5	1 6	80	19·58	...
Sheldwich	Rev. B. S. Malden	5	1 0	250 T	22·49	120
†Selling (Harefield)	M. G. Neame, Esq	5	2 6	217 T	23·68	128
D Westerham (The Fishponds)	F. C. Bayard, Esq	5	1 0	380	21·97	111
D Canterbury (Burgate Street)	B. Rigden, Esq	5	9 6	58 ⅄	20·18	111
D ,, (Irrigation Works)	A.H.Campbell,Esq.,CE	5	0 5	15 ⅄	20·35	146
Seven Oaks (River Hill)	J. T. Rogers, Esq	8	4 0	535	19·29	...
† ,, (The Rectory)	Rev. T. S. Curteis	5	1 0	497	20·41	...
D ,, (St. John's Hill)	F. C. Bayard, Esq.	5	1 10	380	20·65	146
D† ,, (Riverhead Vic.)	Rev. Canon Murdoch	5	0 6	300 T	19·80	107
,, (Chevening Gardens)	Mr. J. C. Sutton	5	1 0	360	20·95	...
D ,, (Kemsing)	T. Stonham, Esq.	5	6 0	300	21·45	140
D Sittingbourne (Sharsted Court)	A. J. Rayfield, Esq.	5	1 0	276 T	20·80	100
Ospringe (Lorenden)	W. C. Stunt, Esq.	5	1 4	180 ?	21·62	114
Knockholt (Kent Waterworks)	F. C. Bayard Esq	5	1 0	785	24·92	...
D Keston (Bradfield)	A. Hill, Esq.	5	1 0	350 T	20·13	147
D Farnborough (Feniton)	Miss Percy	5	1 0	376 T	21·03	162
D Ash (Pettings House) *new g.*	C. J. G. Hulkes, Esq.	5	1 0	540 T	21·37	140
Herne Bay (Eddington)	Miss Hawksworth	5	1 0	4 ?	21·03	...
,, ,, (Water Works)	J. W. Thorpe, Esq.	5	0 6	122 T	17·53	...
D Birchington (Thor)	Mr. W. H. Euden	5	1 0	40 T	18·44	125
D Reculver (Brook)	A. Collard, Esq	5	6 3	40 T	16·42	106
D Hayes Common (The Warren)	Miss Akers	5	1 0	296	21·05	149
D West Wickham (Wickham Court)	F. C. Bayard, Esq.	5	1 2	300	21·70	123
D Orpington (Kent Waterworks)	,, ,, ,,	5	1 0	220	21·47	126
D Farningham Hill	,, ,, ,,	5	3 0	300	19·62	158
Chatham (Luton W.W.)	W. Coles Finch, Esq.	5	3 0	88	17·86	118
,,	The Meteor. Council	8	1 3	137	17·32	118
Rochester (Rede Court)	,, ,, ,,	5	1 0	225	17·48	143
D ,, (Knights Place)	J. Pye, Esq.	5	2 3	320	20·03	153
D St. Peter's *new g.*	Rev. H. C. V. Snowden	5	0 6	140 ⅄	18·64	132
North Foreland	The Meteor. Council	8	1 0	115	17·46	134
White Ness (Kingsgate)	Mr. R. Silk	5	1 0	...	16·54	119
D Margate (Apsley House)	J. Stokes, Esq.	5	1 0	84 L	18·77	129
D ,, (,, ,,) *Snowdon*	,, ,,	5	1 0	84 L	18·47	128
Strood Water Works	W. Banks, Esq., C.E.	5	3 0	112	16·67	119

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above SeaLevel	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
KENT—(*con.*)						
D Frindsbury (Manor Farm)	F. Baker, Esq.	5	1 0	100	17·86	121
D Bromley Common (Elmfield)	Rev. J. P. Faunthorpe..	5	0 9	235 ⅄	19·14	136
D Bickley (Elmhurst)	C. I. Whittington, Esq.	8	3 2	250 T	20·18	140
,, (The High Field)	J. Batten, Esq.	5	1 2	295	18·17	...
D Bromley (The Palace)	F. C. Bayard, Esq.	5	1 0	187	19·58	145
D ,, (Widmore Road)	Miss Scott	5	1 0	230	18·37	126
Chislehurst (Southlaund)	T. O. Hutton, Esq.	5	1 2	...	18·49	...
,, (Foxbury)	H. F. Tiarks, Esq.	8	4 6	250	19·26	172
D ,, (Hawkwood)	F. C. Bayard, Esq.	5	1 0	300	17·54	119
D Wilmington (Kent Waterworks)	,, ,, ,,	5	1 0	25	15·73	116
D Sidcup (Hatherley Road)	Dr. L. Burrell	5	1 2	170 T	19·09	156
D Rochester (Abbot's Court, Hoo)..	Warwick Stunt, Esq.	5	2 0	10	16·53	116
D Beckenham (Cedars Road)	F. C. Bayard, Esq.	5	1 0	105	19·24	151
D Sydenham (Elmfield)	O. Jepson, Esq., M.D..	5	1 0	136	19·34	156
,, (Gorrevod)	Mrs. Stephenson	5	1 0	...	19·33	...
D Forest Hill (Newfield House)	F. C. Bayard, Esq.	5	1 0	220	19·23	138
D ,, (Barr Beacon)	J. W. Restler, Esq., C.E.	5	1 0	344 ⅄	18·34	171
Dartford (West Hill House)	F. C. Bayard, Esq.	5	1 3	100	16·63	...
Higham (Oakleigh)	C. Lake, Esq.	8	1 2	25	13·96	...
D Rochester (Lodge Hill, Cooling).	E. W. Wood, Esq.	5	5 6	247 T	13·21	106
,, (Cooling)	Mr. J. Filmer	5	1 0	10	16·00	...
D ,, (Hoo St. Mary)	H. Pye, Junr., Esq.	5	5 6	146 T	16·44	128
Eltham (Cliefden)	Miss Yeatman	5	0 10	198 T	17·68	...
D ,, (High Street)	F. C. Bayard, Esq.	5	1 0	245	17·76	135
Blackheath Park (Elmsdale)	C. Lethbridge, Esq.	5	0 11	90	18·93	165
Greenwich (Royal Observatory)..	W. H. Christie, Esq. C.B.	8	0 5	155 T	18·85	142
D Deptford (Kent Waterworks)	F. C. Bayard, Esq.	5	1 0	20	16·36	128
D ,, (Pumping Station)	Sir A. R. Binnie, C.E.	10	1 6	15	20·49	134
D Erith (Crossness) .....No. 3	,, ,, ,,	14	0 6	16 ⅄	14·70	117
WEST SUSSEX.						
Bognor	The Royal Meteor. Soc.	...	...	...	19·20	116
,, (Lidsey Lodge)	H. Neale, Esq.	8	1 2	...	22·85	128
Littlehampton (Surrey House)	G. Neame, Esq.	5	1 8	20 T	20·51	...
D Worthing (Ellesmere)	C. Kelly, Esq., M.D.	5	1 0	26 ⅄	22·51	156
D West Thorney	H. Padwick, Esq.	5	1 0	23 T	21·40	131
D Arundel (Yapton)	W. A. Hounsom, Esq..	5	1 0	24 ⅄	21·95	141
,, (,, Drove Farm).	,, ,, ,,	5	1 0	14 T	20·88	145
Angmering	Rev. J. B. Orme	5	1 3	44	21·07	...
D Chichester (Sewage Works)	Baldwin Latham Esq C.E	5	1 0	10 ⅄	22·73	121
,, (Westgate Meadow)	Dr. Tyacke	8	0 6	40	23·28	147
,, (Oaklands)	G. A. Tyacke, Esq.	8	0 9	80 ⅄	23·27	161
D Arundel (Clapham Rectory)	Rev. A. H. S. Barwell	5	1 0	150 T	24·13	169
,, (Patching)	J. Drewitt, Esq.	5	1 0	180	24·57	154
D ,, (,,)	Mrs. Joad	5	0 10	130 T	23·86	162
D ,, (High Street)	A. Holmes, Esq.	8	4 6	30	26·50	124
D West Bourne [Emsworth]	Rev. L. B. Birkett	5	0 8	50 T	26·22	165
West Stoke Rectory	Rev. W. F. Shaw	5	1 0	176 T	24·80	137

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
WEST SUSSEX—(*con.*)						
D†Steyning	Col. Ingram	5	1 0	80 T	25·79	117
,, (Crescent Road)	Mr. H. J. Hide	5	1 0	80 T	24·43	104
Chichester (Eartham House)	Sir P. Milbanke, Bt.	3	4 6	240 T	22·41	...
D ,, (Forest Side Vic.)	Mrs. J. C. Parson	5	1 0	341	26·39	154
D ,, (Watergate)	W. M. Christy, Esq.	5	3 6	240 T	26·26	159
,, (West Dean Park)	Mr. W. H. Smith	10	1 6	190	27·92	121
† ,, (Chilgrove)	J. W. Woods, Esq.	5	0 6	284 T	28·63	...
D Compton [Petersfield]	Rev. H. M. Langdale	5	1 0	255 ⅄	28·76	158
Petworth Park	Mr. E. W. Pull	5	1 0	182	26·72	147
Cowfold (The Laurels)	Mr. S. Ford	5	1 6	273	22·91	...
D Midhurst (St. Ann's)	Genl. Paxton	8	1 8	120 ⅄	26·31	137
D ,, (Borden Wood)	T. J. Hare, Esq.	5	1 2	280 T	26·15	154
,, (Lynch Farm)	G. Eames, Esq.	5	0 6	160 T	30·82	108
D ,, (Hollycombe)	J. C. Hawkshaw, Esq.	8	6 6	...	29·10	104
D Blackdown House [Haslemere]	F. Philipson Stow, Esq.	5	1 10	488 T	25·71	106
D Horsham (Selehurst)	W. E. Hubbard, Esq.	5	1 6	305	25·83	139
D ,, (Bourne Hill)	F. W. Pigott, Esq.	5	1 0	250 T	23·44	189
,, (Manor House)	H. Padwick, Esq.	8	0 10	140 T	27·94	145
D ,, (Wimblehurst)	Miss F. E. Allcard	5	1 0	200 T	24·19	165
Crawley (Oak Lodge)	A. Thomson, Esq.	5	0 10	...	25·25	...
EAST SUSSEX.						
†Beachy Head	Miss Brodie Hall	5	1 0	515 T	16·65	...
East Dean (Hill Side)	E. N. Smith, Esq.	5	1 0	250 T	19·40	116
Eastbourne (Wilmington Square)	R. Sheward, Esq.	8	0 6	39	23·03	147
,, (Burlington Place)	Miss K. A. Orr	5	1 3	20	21·93	104
D† ,, (Osborne House)	Miss Hood	5	1 0	12 T	22·80	146
D ,, (Glenthorne)	Miss Woodd	8	1 6	86 ⅄	23·07	147
D† ,, (Trevella)	H. S. Whitley, Esq.	5	0 6	64 ⅄	23·71	158
D† ,, (Cemetery)	Miss Brodie Hall	5	4 0	160 ⅄	20·31	102
Bishopstone	R. R. Davis, Esq.	5	0 8	...	18·02	126
D†Jevington (Church Farm)	F. Stileman, Esq., C.E.	8	1 0	274 ⅄	22·48	150
D†Litlington (Plough & Harrow Inn)	,, ,, ,,	8	1 0	19 ⅄	23·27	163
D†Willingdon (Hill Cottage)	,, ,, ,,	8	1 0	599 ⅄	21·65	146
D†Brighton (Old Steine)	A. Newsholme, Esq., M.D	5	1 0	32 T	20·41	150
D ,, (W. W. Goldstone Bottm)	J. Johnston, Esq., C.E.	8	0 7	140 ⅄	19·44	145
D ,, (,, Lewes Road)	,, ,, ,,	8	3 6	88 ⅄	21·28	137
D ,, (,, Patcham)	,, ,, ,,	5	1 6	207 ⅄	23·17	148
D ,, (,, Race Hill)	,, ,, ,,	8	1 0	466 ⅄	22·01	138
Bexhill (The Grange)	Miss A. Scrivens	8	4 6	140 T	19·32	113
D ,, (Millfield)	,, ,,	8	1 0	...	20·85	158
St. Leonards (West Marina)	H. Colborne, Esq.	8	1 0	21	21·37	141
,, ,, (Gensing Gardens)	The Meteor. Council	5	1 0	166 T	23·03	147
D ,, ,, (The Grove)	the late W B Young, Esq	5	1 1	110 T	22·13	129
Selmeston Vicarage	the late C. L. Prince, Esq.	...	...	...	22·18	145
D†Iford (Swanborough)	R. H. Verrall, Esq.	5	3 10	115 T	25·21	146
D Hailsham	Rev. F. Clyde Harvey	5	1 0	105	23·28	117

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
EAST SUSSEX—(*con.*)							
D†Falmer	R. R. Verrall, Esq. ...	5	3	0	312 ⩛	24·41	149
D Lewes (Fairhall, Southover)	Miss Mathew ...	5	1	0	45	23·60	140
D† ,, (Bedford Lodge)	Mrs. Kemp ...	5	1	0	85 T	18·50	173
D† ,, (Saxonbury)	A. Hillman, Esq. ...	5	1	0	75 T	22·10	144
D† ,, (Southmalling)	Miss M. H. Rickman...	5	1	0	40 ⩛	20·09	139
D† ,, (,,) *mound g.*	,, ,, ,, ...	5	1	5	63 T	15·33	134
D Hastings (Newgate Res.)	P. H. Palmer, Esq., CE	8	0	10	240	20·59	134
† ,, (High Beech Hollington)	Miss Lewis ...	5	1	0	320 T	20·41	129
D ,, (Guestling Rectory) ...	Rev. E. N. Bloomfield.	5	1	5	125 ⩛	22·55	139
D Clayton Rectory	Rev. T. H. R. Shand...	5	1	1	201 T	25·09	153
D Hurstpierpoint (Danny Park) ...	Mr. J. Bunney ...	8	1	3	180	27·59	114
D ,, (The College) ...	C. Marsh, Esq. ...	5	1	0	100 T	21·13	112
D Winchelsea (The Friars) ...	Miss Stileman.. ...	5	1	2	115 T	17·35	122
D Battle (Whatlington) ...	Miss H. Gripper...	5	1	3	90 T	23·74	136
D†Isfield Place ... *old g.*	Major H. King ...	5	1	0	41 ⩛	20·93	159
,, ,, ... M	,, ,, ...	5	1	0	41 ⩛	20·47	...
,, ,, ... *weekly*	,, ,, ...	5	1	0	41 ⩛	20·77	...
Playden (East Guldeford Lane).	G. Pile, Esq. ...	5	1	0	...	18·83	...
D Burgess Hill (Silverdale Road) .	F. H. Phillips, Esq. ...	8	0	10	162 T	22·86	147
,, ,, (Ote Hall) ...	Mrs. Woods...	5	1	6	...	22·56	161
D Heathfield (Summerlands) ...	A. Brown, Esq. ...	5	1	0	500 T	23·65	129
,, (Tottingworth Park).	Mr. J. Masson...	5	0	10	500 T	24·81	...
Uckfield House ...	the late C.L. Prince, Esq.	8	0	10	200 B	21·05	...
D ,, (Sheffield Park)	Mr. W. T. Moore ...	5	1	0	...	20·50	144
D Haywards Heath ...	C.E. Saunders, Esq. MD	5	1	1	281	20·24	106
D Buxted Park ...	Mr. H. C. Prinsep...	8	1	0	94	21·97	137
,, (Strawberry Hall) ...	C. Rintoul, Esq...	5	1	0	220	20·30	129
D†Maresfield (Forest Lodge)...	Capt. W. Noble ...	8	1	2	247 ⩛	22·16	150
Cuckfield (Workhouse) ...	The Meteor. Council ...	...	1	0	389	20·69	138
D Lindfield (Wood Knoll) ...	L. Weedon, Esq. ...	5	1	0	188 ⩛	22·93	162
D Nutley Vicarage ...	Rev. H. J. Peckham ...	5	1	0	386 T	23·44	169
D†Crowborough (The Observatory).	the late C.L. Prince, Esq.	8	0	8	770 ⩛	24·19	129
Haywards Heath (Brook House)	H. R. G. Clarke, Esq..	5	1	0	240	21·86	112
D Balcombe Place ...	Mr. Warren ...	8	1	3	289 T	24·54	162
,, (Highley Manor) ...	H. M. Baker, Esq...	8	1	6	422 ⩛	23·56	...
Ticehurst ...	Mr. Jordan ...	5	4	9	423 ⩛	22·61	135
D Wadhurst (Lower Cousley Wood)	F. Wilkin, Esq...	5	1	0	416 ⩛	23·54	156
Frant (Eridge Castle) ...	Mr. A. Wilson ...	5	1	0	400	28·98	106
D Forest Row (Harbury) ...	N. W. Grieve, Esq. ...	8	4	0	280 T	21·76	114
D Worth (South Hill) ...	P. E. Ravenshaw, Esq.	5	1	6	558 T	26·63	171
D East Grinstead Station ...	Mr. G. Mitchell ...	8	2	2	410	21·88	143
,, ,, (Halsford Park).	W. V.K. Stenning, Esq.	5	1	6	365 ⩛	22·65	133
HAMPSHIRE. ISLE OF WIGHT.							
D Ventnor ...	J. S. Ineson, Esq. ...	10	2	0	70	23·96	151
,, (Consumption Hospital)	The Royal Meteor. Soc.	5	1	0	75	24·52	147
D*Bonchurch (The Lilies) ...	Mr. W. C. Moseley ...	5	1	0	300 T	25·38	162

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
HAMPSHIRE—(*con.*)						
ISLE OF WIGHT—(*con.*)						
D Sandown (Belgrave House)	W. E. Green, Esq.	5	1 0	105	32·71	146
Brading Vicarage	Rev. E. Summers	5	1 6	50 ?	24·50	...
D Totland Bay (Wilmington)	J. Dover, Esq.	8	1 0	85 T	25·60	137
D Carisbrooke (Rainsgrove)	BaldwinLatham EsqCE	5	1 0	180	29·90	154
D ,, (Rowborough)	,, ,, ,,	5	1 0	193	30·61	153
D Newport (Castle Hold)	A. Le Mesurier, Esq.	5	1 0	45	28·24	150
Yarmouth Schools	Mr. J. E. Furnage	5	1 0	8	24·17	114
D Ryde (Thornbrough)	Col. Clarke	5	1 0	143 T	26·47	159
D ,, (New Lodge)	Capt. W. A. Dobie	5	1 1	147	26·21	158
D ,,	Mr. T. C. Flower	12	9 0	35	27·29	123
D Wootton (Fernhill)	C. G. Brodie, Esq.	8	0 6	118 T	29·32	157
D†Osborne (Newbarn Cottage)	R. Scott, Esq.	8	0 8	172 ⅄	25·58	185
Hurst Castle	The Meteor. Council	8	0 11	9	24·73	142
Bournemouth(Clarendon Court)	G. Galpin, Esq.	5	1 0	110 T	25·27	...
D ,, (WellingtonHouse)	Messrs. Primavesi Bros	5	1 0	100 T	26·06	147
D ,, (Kempsey,BathRd.)	E. L. M. Colvile, Esq.	8	1 0	121 T	25·98	160
D Milford-on-Sea	R. Bruce, Esq.	5	2 6	40	24·41	108
D Christchurch (Mudeford)	F. H. D. Eyre, Esq.	5	0 3	15 L	22·58	149
D ,, (Winkton Lodge)	Miss J. Lassell	5	0 9	34 ⅄	23·56	130
D ,, (Heron Court)	Earl of Malmesbury	8	0 6	25	26·37	150
D Portsmouth (Fort Cumberland)	P. Murch, Esq., C.E.	8	0 9	16 ⅄	18·96	127
D ,, (Milton)	Dr. Fraser	5	1 0	18 ⅄	22·65	142
D North Hayling	F. Padwick, Esq.	5	1 0	10	21·23	125
D Porchester (Noel Cottage)	Miss Montgomery Frost	5	1 0	...	23·76	135
D Havant (Farlington)	H. R. Smith, Esq., C.E.	5	1 0	77 T	21·05	149
,, (,,) M	,, ,, ,,	5	1 0	77 T	21·06	...
D ,,	,, ,, ,,	5	1 0	25 T	21·86	143
,, M	,, ,, ,,	5	1 0	25 T	21·84	...
D Emsworth (Redlands)	F. Jacomb Hood, Esq.	5	1 0	90 T	25·46	152
D Southampton (Cadland)	J. Laurie, Esq.	8	4 6	52 T	26·14	157
D ,, (Netley)	Prof. J. Lane Notter	8	0 5	37 ⅄	29·88	143
D ,, (,, Lake Ho.)	Col. Pennington	8	1 0	54 ⅄	26·43	164
,, (Ordnance Surv. Off.)	Col. Farquharson, C.B.	5	1 0	79 ⅄	26·61	143
D ,, (Totton)	Mr. W. F. Harold	5	5 0	85	29·36	160
,, (Anglesea Rd.,Shirley)	A. Spooner, Esq.	5	1 1	83	28·79	...
,, (Tatchbury Manor)	C. F. Wilson, Esq.	5	1 0	...	29·34	130
D Wickham (The Croft)	RevStanhope Rashleigh	5	0 11	80 ?	23·88	158
†Botley (Fairthorne)	R. A. Burrell, Esq.	8	1 0	70	25·15	152
D ,, (Hall Court)	Adml. Murray-Aynsley	8	1 6	105 T	27·84	157
D† ,, (Botley Hill)	A. Jenkyns, Esq.	5	1 6	36 T	25·12	143
D† ,, (Beachcroft, Curdridge)	Miss Pasley	8	2 0	100	25·86	171
D Horndean (Blendworth Lodge)	Mrs. Long	5	2 0	217	27·20	149
D ,, (St. Catherines)	Miss Barnes	8	1 7	417 T	28·89	172
D†Southampton (Red Lodge)	R. C. Hankinson, Esq.	5	0 6	210 T	27·23	160
D Fordingbridge (Oaklands)	Mrs. Westlake	8	1 0	135 T	27·03	120
D Hambledon (Rosecroft)	Mr. L. Dawes	5	2 6	200	27·68	167

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
HAMPSHIRE—(*con.*)						
Bishops Waltham (Swanmore House)	W.H.Myers, Esq., M.P.	8	1 0	390 T	25·03	126
D ,, ,, (Hill Place)	Major W. A. Daubeny.	8	0 9	260 T	27·03	155
,, ,, (Northbrook Ho.)	H. W. Trinder, Esq....	5	1 0	140	26·86	165
Droxford (Fir Hill)	the late Rev. S. King..	5	3 6	212 T	25·83	155
Fordingbridge (Wood Green) . .	H. Hinxman, Esq.....	5	1 2	140 ⅄	28·26	...
East Meon (Westbury House) ...	H. Le Roy Lewis, Esq.	5	5 8	296 ⅄	29·78	148
D Ampfield Vicarage.....	Rev. Vere Awdry	5	3 0	230 T	24·71	157
†Otterbourne Hill Reservoir ... M	W. Matthews, Esq., CE	5	18 0	273 ⅄	14·76	...
D† ,, (W.W., Shawford).	,, ,, ,,	5	1 0	113 ⅄	23·71	157
† ,, (,, ,,) M	,, ,, ,,	5	1 0	113 ⅄	23·86	...
D Petersfield (Fairley)	A W Leachman, Esq. MD	5	0 7	202 T	30·22	158
D ,, (Steep Vicarage) ...	Rev. E. L. Puxley.. ...	5	0 7	170	23·44	155
D Kilmeston Manor	F. W. C. Read, Esq....	5	4 0	...	26·98	138
D West Dean	Rev. E. Wells	5	1 0	137 B	23·50	140
D East Liss (Newlands)	E. B. Falwasser, Esq. .	5	1 0	390 T	27·35	162
Liss (Liss Place)	F. Coryton, Esq.....	7	0 7	250 ⅄	26·32	..
D ,, (Lingwood)	R. Barnes, Esq., M.D.	5	0 9	510	29·34	155
D†Alresford (Hinton Ampner).....	Rev. J. Heberden	8	4 4	340 ⅄	27·15	149
D ,, (Ovington).....	Rev. H.F. La M. Stowell	5	1 0	221 T	25·70	136
D ,, (Itchen Stoke Rectory)	Rev. C. H. Conybeare..	5	1 0	214 T	23·83	158
East Tisted.....	Rev. A. Jewell	5	1 0	420	30·65	...
Greatham (King's Holt)	Mrs. Parr	5	1 7	279 T	25·69	...
D†Winchester (Harestock)	Col. Knight	5	1 0	302 ⅄	27·67	159
Liphook (Fowley)	E. A. Lee, Esq.	5	0 10	296 T	26·99	156
,, (White Hill Chase) ...	Col. R. H. Maude	5	1 0	300 ⅄	27·02	142
D Grayshott [Hindhead]	Mrs. Lyndon	5	1 0	660 T	27·16	158
D Hartley Maudit Rectory	Rev. A. C. Hervey ...	5	1 1	540 T	23·03	109
Headley (Eveley)	Mr. T. Carter.....	5	1 3	295 T	28·58	139
D Swarraton Rectory	Rev. W. L. W. Eyre...	5	1 0	310 ⅄	26·09	171
D Old Lodge [Salisbury]	E. Lamb, Esq.	8	1 1	480	26·16	172
D†Alton (Ashdell).....	F. Crowley, Esq.	8	3 6	433 ⅄	27·13	157
,, (Eagles Nest)	,, ,, ,, ...	5	52 4	505	16·15	...
,, (Hill House)	C. H. Dyer, Esq.	5	1 0	361	27·76	182
,, (Shalden Manor).....	J. G. Wood, Esq.	8	3 0	594	26·46	...
D Whitchurch (Long Parish)	C. Durnford, Esq.....	...	...	...	22·54	145
Andover (The Knoll)	G. H. Westbury, Esq..	5	0 10	196 T	26·77	143
D Tedworth House [Ludgershall]..	Mr. G. A. Inglefield ...	5	1 8	357 T	27·88	147
Crondall (Warren Corner) *old g.*	F. Wilkin, Esq.....	5	1 0	575 T	20·30	...
D ,, (,, ,,) *new g.*	,, ,, ,, ...	5	1 0	575 T	20·89	148
D Basingstoke (Chapel Hill).....	G. Stephens, Esq.	5	1 0	328 T	22·41	137
D† ,, (Sherborne St. John)	Rev. D. W. Chute.....	5	1 2	267 T	23·26	160
D Winchfield (Bylands)	Lady Mary Scott	8	1 4	222	19·97	149
D ,, (Elvetham Park) ...	Mr. G. B. Mitchison ...	8	1 0	217 T	23·28	198
Farnborough (The Grange)	Major Holt	5	1 0	232 T	24·77	171
D ,, (The School)	Rev. G. C. Carter	5	2 0	257 T	22·13	160
,, (,, ,,) ... M	,, ,, ,, ...	5	2 0	257 T	20·13	...
Hartley Wintney	Mr. W. G. Machin ...	5	1 2	222 T	21·24	159
,, Grange	F. Walkinshaw, Esq...	5	1 0	221 ⅄	21·61	164

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge: Diameter	Rain Gauge: Height Above Ground	Rain Gauge: Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	HAMPSHIRE—(*con.*)						
	†Strathfield Turgiss	Mrs. Griffith	5	2 6	200 ⅄	20·30	...
D	Heckfield (Highfield Park)	F. B. Marson, Esq.	5	...	262	21·03	160
D	Strathfieldsaye Gardens	Mr. J. W. McHattie	5	2 0	164	20·98	128
	Heckfield (Park Corner)	J. Martineau, Esq.	5	1 2	257	19·68	130
	BERKS.						
D	Sandhurst Lodge	Sir W. J. Farrer	8	2 9	263	21·79	119
D	Wellington College	S. A. Saunder, Esq.	5	1 0	283 ⅄	21·42	134
D	Aldermaston Wharf	J. T. Strange, Esq.	5	1 0	181 ⅄	22·42	170
D	Sunninghill (Lynwood)	G. Rodie Thompson, Esq.	5	1 0	266 ⅄	21·77	151
D	Ascot (Manor Farm)	C. A. Ferard, Esq.	5	1 0	240 ⅄	19·38	144
D	Newbury (Benham Park)	Mrs. Myers	8	1 3	...	21·02	159
	Shinfield (Clares Green)	A. Palmer, Esq.	5	4 6	160 T	18·56	133
D	Hungerford (Kintbury)	Sur.-Gen. Woolfryes, CB	5	1 0	297 T	23·26	180
	,, (Denford Park)	Gen. Cherry-Garrard	5	1 2	430 T	24·54	142
D	Beenham House	H. Waring, Esq.	8	2 2	320	21·85	133
D	Bracknell (Warfield)	Rev. B. C. Littlewood	5	0 4	199 T	20·27	180
D	Old Windsor (Beaumont College)	Rev. J. Scoles	5	1 1	96	18·91	127
D	Windsor (Royal Gardens)	Mr. T. Edwards	5	1 0	...	17·26	146
	Reading (Maiden Erlegh)	Mr. T. Turton	5	1 0	200	20·19	159
	,, (Englefield)	Mr. J. Coombes	5	1 1	...	23·86	142
D	,, (Calcot Place)	General Swettenham	5	1 4	176 T	20·89	172
D	,, (Ellerslie)	Rev. A. Cheales	5	1 0	195 ⅄	18·62	135
D	,, (Forbury Gardens)	J. Bowen, Esq., C.E.	5	1 5	145 ⅄	19·43	170
	,, (East Thorpe)	A. Palmer, Esq.	5	3 0	157 T	20·04	145
	,, (Earley)	M. J. Sutton, Esq.	8	1 6	...	17·98	...
	Twyford (Hurst Grove)	Mrs. Finch	5	1 0	...	18·79	116
D	,, (Haines Hill)	Mrs. Wedderburn	5	0 7	155	19·21	155
D	Newbury (Welford Park) *old g.*	Mr. C. Ross	5	1 0	335 ⅄	26·06	170
D	,, (,, ,,) *new g.*	,, ,,	5	1 0	341 T	26·44	170
D	,, (Weston)	R. Osmond, Esq.	5	1 4	338 T	23·67	172
	Yattendon Court	Mr. R. Maker	5	1 0	450 T	23·28	162
D	Maidenhead (Stafferton Lodge)	G. H. Palmer, Esq.	5	0 10	100	18·73	154
D	,, (Lowood)	Gen. Davies	8	1 0	167 T	19·36	152
D	,, (Pinkney's Green)	G. Norsworthy, Esq.	5	1 6	240	19·09	161
D	,, (Cookham Vic.)	Rev. R. W. Rogers	5	1 3	90 T	17·87	139
D	Temple House [Marlow]	Mr. G. Groves	5	1 0	106	19·77	176
D	Wantage (Letcombe Regis)	S. W. Silver, Esq.	5	0 9	...	23·29	138
	,,	W. Hanson, Esq.	5	1 0	304	24·64	130
	Wallingford Castle	J. Kirby Hedges, Esq.	5	1 0	175 ⅄	17·49	152
	Little Wittenham Rectory	Rev. Percy Burd	5	1 0	187 T	19·24	163
D	,, ,,	T. J. Latham, Esq.	5	2 0	187	18·11	131
D	Long Wittenham (Manor Ho.)	Capt. Clutterbuck, R.N.	12	1 0	165 T	20·49	137
	,, ,, (Lovegrove's Cott.)	Rev. F. C. Clutterbuck	5	1 0	165	20·37	135
	Faringdon (The Elms)	W. Dundas, Esq.	5	1 0	340 T	20·96	157
	Abingdon (Caldecott House)	Maj.-Genl. T. M. Bailie	5	1 4	...	19·35	111
D	,, Union	Mr. J. Fray	5	1 0	196	19·06	151
	,, (Sewage Works)	G. Winship, Esq., C.E.	5	0 6	169	18·95	...

DIVISION III.—SOUTH MIDLAND COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above SeaLevel feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
HERTS.							
D Southgate (The Lawns)	G. A. Church, Esq. ...	5	0	6	240 T	18·14	163
D†Rickmansworth (Moor Park)	Rt. Hon. Lord Ebury ..	5	2	0	340	20·77	170
D Elstree (Aldenham House)	Mr. E. Beckett	10	4	9	305	19·40	143
D Watford (Frogmore)	A. P. Blathwayt, Esq.	5	1	0	182 T	16·65	147
,, (Colne Valley W.W.)	J. Hopkinson, Esq. ...	5	1	0	220	18·18	166
D ,, (LondonOrphanAsylum)	Rev. Dr. Cockrem	5	1	0	230	17·36	142
D ,, (St. Alban's Road)	H. Ruddle, Esq.	5	1	0	...	18·20	106
Barnet (Gas Works)	J. Hopkinson, Esq. ...	8	0	9	212	18·09	133
Chipperfield (Little Callipers)	A. W. Rivington, Esq.	5	7	4	407 T	18·01	100
Kings Langley (Laurel Bank)	I. Butler, Esq.	5	1	0	283 ⅄	18·86	...
D Broxbourne (Stafford House)	G. J. Newbery, Esq.	5	1	0	118 T	18·62	157
D Hemel Hempstead (Nash Mills)	Messrs. J Dickinson & Co.	12	3	9	237 T	17·40	129
D ,, ,, (Apsley Mills)	,, ,, ,, ...	24	0	9	260	19·13	145
D St. Albans (The Grange)	J. Hopkinson, Esq. ...	5	1	0	380 ⅄	19·12	165
,, (Bone Hill)	,, ,, ,, ...	5	1	0	336 ⅄	17·86	164
† ,, (Gorhambury)	Mr. Newberry	5	1	0	425 T	19·06	155
D Great Berkhampstead (The Hall)	Capt. Constable Curtis	5	1	0	351 T	19·55	139
D ,, ,, (Rose Cottage)	W. E. Milner, Esq. ...	5	1	0	334 ⅄	19·64	158
D ,, ,, (Rosebank)	E. Mawley, Esq.	8	1	0	401 ⅄	19·13	154
,, ,, (,,) M	,, ,,	8	1	0	401 ⅄	19·02	...
,, ,, (Fairhill)	W. B. Hopkins, Esq.	5	1	0	548 ⅄	*18·17*	...
D ,, ,, (Northchurch)	F. L. Sutton, Esq.	5	1	0	400	18·29	137
D ,, ,, (Gt. Gaddesden)	Rev. W. Tyrwhitt Drake	8	1	0	426 ⅄	19·50	148
Gilston Park	Mr. W. Cooper	8	0	6	175 T	20·27	103
Hertford (Bayfordbury)	W. C. Baker, Esq.	8	1	2	250	18·34	155
D ,, (Marden Hill, Tewin)	R. Hoare, Esq.	5	1	0	257 T	*18·02*	129
Tring (Pendley Manor)	Mrs. Williams	5	2	0	500 ?	19·83	161
,, (Elm House)	E. J. Le Quesne, Esq..	5	1	2	460	18·80	119
D ,, (Offside Cottage, Cowroast)	R. Leah, Esq.	5	1	4	420	19·41	156
,, (Cowroast)	G. Thomas, Esq.	5	3	8	394 ⅄	19·04	129
Harpenden (Rothamstead)	Sirs J. Lawes & J. Gilbert	5	0	9	420 T	19·24	157
,, (,,)	,, ,, ,, ...	8	0	9	420 T	18·72	145
D ,, (,,)	,, ,, ,, ..	72X87	0	9	420 T	20·49	159
D Ware (Red House)	J. Francis, Esq., C.E..	5	0	9	112 T	18·75	133
D ,, (Fanham's Hall)	Miss V. M. Croft	8	1	0	253 T	20·08	145
D Welwyn (Bridge House)	B. W. Thomas, Esq., MD	5	6	6	...	19·17	146
D ,, (Danesbury)	A. M. Blake, Esq.	5	2	0	400	19·97	134
D ,, (Datchworth Rectory)	Rev. A. Amos	5	1	0	386 T	18·94	136
D Much Hadham	T. W. Mott, Esq.	5	1	0	222 B	21·62	148
D Kensworth [Dunstable]	Miss Jones	5	1	0	630 B	20·60	146
D Knebworth	F. J. Wardale, Esq. ...	5	0	10	300 T	21·06	137
D Bennington House	Rev. Dr. Parker	5	1	0	408 ⅄	20·27	167
D ,,	Miss C. Nihill	5	1	0	408	20·55	150
D Buntingford (Hamels Park)	Mr. E. Wallis	5	1	0	400 T	21·08	134
D†Hitchin (Wratten)	W. Lucas, Esq.	5	2	1	238 ⅄	19·18	163
,, (The Maples)	W. Hill, Esq.	8	1	1	220 T	19·58	155
D ,, (Bancroft)	F. Ransom, Esq.	5	0	9	212 T	19·59	167
,, (High Down)	J. Pollard, Esq.	5	1	1	422 ⅄	20·12	175

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
HERTS—(*con.*)						
D Weston Park	M. R. Pryor, Esq.	5	0 8	470 T	21·26	161
D Buntingford (ThrockingRectory)	Rev. C. W. Harvey	5	1 0	484 T	20·71	170
D Baldock (Hitchin Street)	Dr. Langston Day	5	1 4	214 ⅄	20·74	146
D Royston (Therfield Rectory)	Rev. J. G. Hale	5	4 3	510 ⅄	21·67	162
,, (Union Workhouse)	H. G. Fordham, Esq.	5	1 0	217	21·17	138
D† ,, (London Road)	late H. Wortham, Esq.	8	0 6	269 ⅄	21·25	145
,, (Melbourne Street)	J. E. J. Phillips, Esq.	8	0 11	201 T	20·57	144
BUCKINGHAMSHIRE.						
D Eton (Tangier Island)	C. Sainty, Esq.	5	1 0	67 ⅄	17·16	137
D Slough (Langley)	R. H. Major, Esq.	8	0 10	85 T	18·14	137
,, (Upton)	R. Bentley, Esq.	8	3 0	80 ⅄	15·88	...
D ,, (,,)	,, ,, ,,	5	2 0	78 ⅄	17·92	146
D ,, (Upton Park)	H. M. Baker, Esq.	5	1 5	80 ⅄	17·11	144
Burnham (Fair View)	G. J. Williams, Esq.	5	3 0	162	16·54	...
D Taplow Court	W. H. Grenfell, Esq.	8	1 0	217 T	16·31	111
Greenlands [Henley-on-Thames]	Hon. W. F. Smith, M.P.	8	1 3	116	21·71	112
D Hedsor	Rt. Hon. Lord Boston.	8	1 0	170 T	18·54	137
D Marlow Mills	T. H. Wright, Esq.	8	2 0	105	19·36	133
High Wycombe	H. S. Wheeler, Esq.	8	0 9	253 ⅄	18·53	...
D Chalfont St. Giles (The Stone)	Col. Phipps	5	1 0	270 T	19·78	150
D Amersham (The Plantation)	G. Weller, Esq.	8	1 0	464 ⅄	18·82	143
Princes Risboro' (Little Kimble)	late T. W. Morris, Esq.	5	1 3	322	21·53	...
Wendover (Halton Gardens)	Mr. Sanders	5	1 10	400	20·94	141
Bulbourne [Tring]	G. Thomas, Esq.	5	2 3	401 T	19·29	159
Waddesdon Manor	Mr. J. Jaques	6	1 6	364 T	20·91	154
Mentmore	J. Smith, Esq.	5	1 1	...	18·31	...
D Winslow (Botolph House)	R. Gray, Esq.	5	1 0	414	19·82	151
D† ,, (Addington Manor)	Rt. Hon. Lord Addington	8	1 0	309 ⅄	21·35	154
,, (,, ,,) M	,, ,, ,,	5	1 0	309 ⅄	21·17	...
D† Buckingham (Adstock)	J. E. S. Weston, Esq.	5	0 9	352 T	20·60	139
D Stony Stratford (Thornton)	Mr. W. Sturdy	5	1 3	...	20·68	117
D Wolverton	Rev. W. L. Harnett	5	1 0	270 T	20·07	134
D ,, (The School House)	Mr. H. J. Hippsley	5	1 0	264	20·22	124
D Newport Pagnell	F. Littleboy, Esq.	5	2 0	196 T	19·41	136
,, ,, (Gorefield Vic.)	H. G. Fordham, Esq.	5	1 1	...	17·66	...
Olney (Filgrave Rectory)	Rev. J. Tarver	8	0 8	285	18·39	131
,, (Brayfield House)	G. D. Farrer, Esq.	5	0 7	200	17·85	142
OXFORD.						
D Whitchurch Rectory	late Rev. Canon Slatter	10	1 0	150 ⅄	20·59	139
D Caversham (Cane End House)	D. Vanderstegen Esq.	5	0 4	400 ?	22·03	144
Henley-on-Thames (Greys)	Rev. Canon Pinder	5	2 6	370 T	19·89	...
D ,, ,, ,, (Northfield Ho.)	J. W. Guy, Esq.	5	1 0	120	18·90	150
D ,, ,, ,, (HighmoreVic.)	Rev. F. R. Harnett	5	0 6	550	23·18	150
D ,, ,, ,, (Assenton)	Mr. J. Ratty	5	1 0	281	22·68	149

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
OXFORD—(*con.*)						
D Dorchester ...	Col. Blunt	5	0 6	169 T	18·57	152
D ,, (Bishops Court)	T. Latham, Esq.	5	2 0	169	18·89	158
D Abingdon (Culham)	Rev. F. C. Clutterbuck	5	1 0	200 ⅄	20·41	155
D Watlington (Pyrton Manor)	Cecil Hamersley, Esq..	5	1 0	321 T	21·45	168
D Nuneham Park Gardens	Mr. Munday	8	3 0	280 T	21·46	126
Wheatfield Rectory	Mrs. Spencer	5	1 3	260	20·86	154
D Toot Baldon (Potlands)	D. Clinkard, Esq.	5	1 0	288	20·74	161
Waterstock	W. H. Ashhurst, Esq..	8	3 0	206 T	19·36	154
D†Oxford (Mag. Coll. Laboratory)	E. Chapman, Esq.	5	1 0	186 ⅄	18·35	143
,, (,, ,, ,,)	,, ,, ,,	5	33 11	223 ⅄	16·58	...
,, (Radcliffe Observatory)	Dr. Rambaut	8	1 8	210 ⅄	19·22	127
,, (,, ,,)	,, ,, ,,	11	2 4	210 ⅄	19·95	123
,, (,, ,,)	,, ,, ,,	10	22 0	230 ⅄	19·79	134
,, (,, ,,)	,, ,, ,,	10	112 0	320 ⅄	13·45	116
D ,, (St. Giles')	Miss Tawney	8	1 3	211 ⅄	20·02	159
D ,, (Norham Road)	Rev. C. B. Mount	10	1 2	206 ⅄	19·29	138
D ,, (Headington Hill)	Miss Davenport	5	0 10	354	21·66	149
D ,, (Elsfield)	H. Parsons, Esq.	5	1 0	330 T	20·34	162
Stanton St. John's	Miss Thomson	8	1 0	340	20·80	172
,, ,, ,, (Woodperry)	J. Thomson, Esq.	6	1 0	399 T	21·03	168
Witney (Lynton House)	J. Opie, Esq.	5	1 0	300 T	18·56	...
D Charlbury (Highfield)	W. L. Sturge, Esq. ...	5	1 6	442 ⅄	22·92	187
D Chipping Norton (Lyneham)	R. de M. Pratt, Esq....	5	1 7	351 T	25·67	143
,, ,, (Kingham)	E. Lockwood, Esq. ...	5	4 0	442	23·07	...
D ,, ,, (Churchill)	G. Edmonds, Esq.	5	1 0	510 T	21·45	182
D Bicester (Middleton Park)	Rt. Hon. Earl of Jersey	5	2 6	336 T	22·38	156
D Steeple Aston (The Grange)	late Adl. Bradshaw, C.B.	8	1 0	400 T	22·36	171
D Swerford	Mr. W. Hall ..	5	1 0	570 T	22·69	168
D Barford St. Michael (Irondown)	S. N. Baker, Esq.	5	1 2	530 T	23·32	148
D Banbury (Adderbury)	G. H. Norris, Esq.	5	1 1	323 ⅄	21·77	175
D ,, (Bloxham Grove)	W. H. Warriner, Esq.	8	3 10	387 ⅄	22·50	130
D ,, (Sibford Ferris)	J. Lamb, Esq.	5	1 0	590 ⅄	22·03	130
D ,, (Bodicote)	J. F. Starkey, Esq. ...	8	1 3	388 ⅄	23·40	138
NORTHAMPTON.						
Brackley (East Hill)	Sir G. Bannerman, Bt.	5	1 0	425 T	22·94	162
D Grimsbury [Banbury]	W. E. Wood, Esq.	5	1 3	320 T	20·61	108
,, [,,]	A. B. Field, Esq.	8	2 0	320	20·19	...
Thorpe Mandeville [Banbury]	Mr. S. Baines	5	1 0	530	24·86	124
D Towcester (Whittlebury)	W. S. Miller, Esq.	5	1 6	350	22·96	134
D ,,	P. Phipps, Esq.	5	1 0	290	22·27	129
,, (Easton Neston)	Mr. E. Slarke	8	1 0	340 T	19·88	150
Byfield (Woodford Halse)	Rev. F. A. Smith	5	1 6	488 T	21·23	123
D Blisworth (Grafton House)	A. Westley, Esq	5	5 0	320	20·18	148
D ,,	T. W. Millner, Esq. ...	5	1 6	300 ⅄	18·80	145
D Lichborough Hall	E. Grant, Esq.	5	1 1	500	22·86	151
D Daventry (Fawsley)	Lady Knightley	5	1 0	477 T	21·48	135

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	NORTHAMPTON—(*con.*)						
D	Castle Ashby	R. G. Scriven, Esq.	5	1 0	263 ⅄	19·92	158
	Little Houghton	C. A. Markham, Esq.	...	...	...	18·92	156
	Northampton (Berrywood)	R. Greene, Esq.	8	1 4	399 ⅄	19·85	128
D	,, (St. George's Place)	C. A. Markham, Esq.	5	1 0	276 T	18·76	145
	,, (Freehold Street)	B. Burrows, Esq.	5	1 0	264 T	21·51	...
	,, (Pytchley Street)	Mr. E. Ball	5	1 6	270	19·23	144
D	,, (Kingsthorpe)	S. Law, Esq.	5	1 0	280	19·67	140
D	Althorp House	Miss Chowler	8	3 10	310 ⅄	16·94	112
	Great Brington	C. A. Markham, Esq.	...	...	..	19·99	121
D	Pitsford (Sedgebrook)	,, ,, ,, ...	5	1 0	311 ⅄	19·37	144
	,, (,,) M	,, ,, ,, ...	5	1 0	311 ⅄	19·20	...
D	Daventry (Waterloo)	F. F. Rodhouse, Esq.	5	1 3	436 ⅄	24·52	164
	Earls Barton Vicarage	C. A. Markham, Esq.	5	1 4	280 T	20·21	170
D	Mears Ashby	Rev. J. L. Fawssett	5	6 5	339	20·87	176
D	Wellingborough (Swanspool)	N. P. Sharman, Esq.	5	0 2	155	18·85	149
D	,, (Croyland Abbey)	E. Sharman, Esq.	5	0 5	...	18·22	174
	Watford Court	C. A. Markham, Esq.	...	...	...	22·33	163
D	Ravensthorpe (Coton Mill)	G. S. Eunson, Esq.	5	1 0	355	20·49	136
	Scaldwell	Capt. R. Soames	...	1 0	404 ⅄	19·65	...
D†	Burton Latimer Rectory	Rev. W. B. Jacques	5	1 0	280	18·62	133
	Hazelbeech	C. A. Markham, Esq.	...	...	...	20·74	132
†	Kettering (Sewage Works)	T. R. Smith, Esq., C.E.	8	1 0	199 ⅄	20·77	141
D	,, (Queensberry Road)	P. Wallis, Esq.	8	1 3	300	20·49	145
D	,, (Headlands)	C. W. Lane, Esq.	5	1 0	280	19·44	150
	Welford (Salford House)	J. Gee, Esq.	5	1 3	430 ?	23·36	157
	Aldwinkle St. Peter	C. A. Markham, Esq.	...	...	...	18·58	129
	Oundle	J. M. Siddons, Esq.	5	3 4	105 T	16·49	...
	East Carlton	R. T. Greaves, Esq.	5	1 0	321	19·46	...
D	Corby (Weldon Grange)	J. Rooke, Esq.	8	1 0	342 ⅄	19·65	171
	Rockingham Castle	Mr. J. H. Brown	5	4 4	400 L	22·47	128
	Wansford (Apethorpe Lodge)	A. Jolly, Esq.	5	0 8	180	22·36	131
	Kingscliffe (Fineshade)	C. A. Markham, Esq.	...	...	...	17·78	...
	Peterborough (Thorpe Hall)	Col. C. I. Strong	5	1 0	30 ?	16·30	...
D	Stamford (Duddington)	F. Coventry, Esq.	5	1 0	158	19·07	158
D	,, (Collyweston)	Baldwin Latham Esq CE	5	1 0	315 T	18·12	132
D	,, (,, House)	Miss Tasker	5	1 0	281 T	20·13	154
D	,, (Easton)	N. Day, Esq.	5	0 9	271 T	17·98	137
	,, (St. Martin's)	Mr. T. Booth	5	6 0	107 ⅄	18·85	135
D	Maxey Vic. [Market Deeping]	Rev. W. D. Sweeting	5	1 0	32 ⅄	16·99	148
	,, ,, [,, ,,] M	,, ,, ,, ...	5	1 0	32 ⅄	16·93	...
	HUNTS.						
	St. Neots (Waresley Park)	Lady C. Duncombe	5	0 11	190	21·31	124
D	,, (Great Paxton)	Rev. A. G. Cane	5	1 0	100 T	17·93	127
	Offord D'Arcy	W. Priestley, Esq.	5	0 9	50	18·57	137
D	Huntingdon (Brampton)	Miss May Bird	5	1 1	39 T	20·05	151
	,, (Hinchingbrook Gardens)	Mr. J. Myers	10	6 0	...	16·55	119
D	Alconbury	Rev. R. Conway	5	1 0	60 T	17·74	146

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in	feet.	inches.	
	HUNTS—(*con.*)						
	Whittlesea Mere	A. Lunn, Esq., C.E.	8	1 6	...	17·98	110
D	Yaxley (Norman Cross)	Mr. W. Allen	8	1 0	106 T	17·69	142
	BEDFORD.						
D	Luton (Pumping Station)	A.J.L. Evans, Esq., C.E.	5	1 0	343 ⊼	21·02	164
	Shillington	Kilham Roberts, Esq.	5	1 0	182	20·63	161
D	Ampthill (Higham Bury)	E. J. Jekyll, Esq.	5	1 0	310 T	21·35	149
	,, (Silsoe)	H. Trethewy, Esq.	5	1 0	214 T	21·94	147
	,, (Wrest Park)	Mr. G. Ford	5	1 1	...	18·18	...
D†	Aspley Guise (Oaklands)	E. E. Dymond, Esq.	5	1 0	410 T	20·40	151
	Woburn (Crawley Farm)	J. J. Forrester, Esq.	5	3 8	285 T	21·53	138
	,, (Experimental Fruit Farm)	R. Lewis Castle, Esq.	5	0 8	270 T	21·28	139
D	Stotfold [Baldock]	Dr. Swain	5	1 0	220 T	21·18	176
	Ampthill (Maulden)	S. Street, Esq.	5	1 6	...	16·35	...
	Biggleswade (Old Warden)	Mr. G. R. Allis	8	1 2	...	23·12	122
D	Potton (Wrestlingworth)	H. J. King, Esq.	5	1 0	...	19·21	148
	,, Vicarage	Rev. G. E. Gwynne	5	1 3	145	18·01	...
	Sandy (The Lodge)	Rt. Hon. Lord Peel	5	1 0	...	19·75	162
D	Bedford (The Grove)	W. B. Graham, Esq.	5	1 0	108 T	18·18	121
	,, (St. Peter's Street)	W. Godfrey, Esq.	5	1 0	...	18·01	...
	,, (Milton Ernest)	F. Newbery, Esq.	5	5 0	137 ⊼	20·82	120
D	Sharnbrook (Colworth Gardens)	Mr. J. Hoad	5	0 8	250	18·73	109
	CAMBRIDGE.						
D	Odsey [Royston]	H. G. Fordham, Esq.	5	1 0	256 ⊼	20·04	156
D	,, [,,]	,, ,, ,,	5	1 0	256 ⊼	19·92	157
D	Foxton House [Royston]	A. P. Humphry, Esq.	5	0 10	60 T	18·99	156
	Abington Pigotts [Royston]	late W.G.F.Pigott, Esq.	8	0 8	130	20·36	155
	Carlton	G. H. Long, Esq.	5	1 0	340 T	21·27	143
D	,, Hall	A. S. Nice, Esq.	5	1 6	...	22·78	158
D	Longstowe Rectory	Rev. J. P. Sharp	5	1 3	227 T	22·43	167
	Trumpington	F. Parsons, Esq.	5	1 0	50	19·66	153
D	,, (Gilmerton)	S. Nutter, Esq.	8	0 9	...	18·14	164
	Granchester Mill	H. G. Fordham, Esq.	5	5 0	31 ⊼	20·10	149
D	Cambridge (Fulbourne Pmpng Sta)	W. W. Gray, Esq., C.E.	5	1 0	37 ⊼	20·04	177
D	,, (W.W.Cherryhinton)	,, ,, ,,	5	1 0	35 ⊼	17·56	139
	,, (Botanic Gardens)	H. G. Fordham, Esq.	8	0 9	40	20·09	132
D	,, (Sidney Street)	W. E. Pain, Esq.	8	60 0	92 ⊼	17·97	163
	,, (Pinehurst)	C. F. Foster, Esq.	5	0 10	36	18·34	148
	,, (Trinity College)	*Registrar Gen. Returns*	8	0 8	40	17·77	161
D†	,, Observatory	Sir R. S. Ball, F.R.S.	5	1 0	84 ⊼	18·16	128
D	,, ,,	,, ,, ,,	8	0 10	84 ⊼	17·95	125
	,, (Quy Hall)	H. G. Fordham, Esq.	5	0 5	61	18·84	141
	Newmarket (Cheveley Park)	,, ,, ,,	8	1 6	350	21·50	137
	Lolworth Rectory	,, ,, ,,	5	0 11	...	21·25	147
	Burwell	,, ,, ,,	5	2 0	58	18·71	132
	Cottenham (Bernard House)	A. Bull, Esq.	5	1 6	30 T	18·88	111
D	Stretham (Dimocks Cote)	Mr. H. Nightingale	5	13 7	...	18·29	126

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
	CAMBRIDGE—(*con.*)							
D	Stretham	Mr. J. Housley	9	4	9	13 ⅄	17·95	119
D	,, Ferry	Mr. C. Wright, Junr.	8	5	0	...	19·00	126
D	Ely (The Palace)	Rev. G. Bullock Webster	5	1	0	64 T	22·02	183
	Mepal Engine	H. G. Fordham, Esq.	5	20	6	25	14·14	...
	Littleport (Highfield House)	H. G. Martin, Esq.	8	2	7	67 T	18·22	115
	Chatteris (Aylesby House)	A. H. Ruston, Esq.	8	0	6	45 ?	17·76	118
	,, (The Priory)	H. F. Fryer, Esq.	5	0	7	45	18·66	101
	,, (Horseway Lock)	A. Lunn, Esq., C.E.	8	15	0	...	15·82	100
	Stanground Sluice	,, ,,	8	1	6	...	15·44	...
	March	,, ,,	9	2	0	...	18·64	123
*	,, (Stags Holt)	the late W. C. Little, Esq.	5	1	0	11 T	18·67	138
	Upwell (Marmont Priory Lock)	A. Lunn, Esq., C.E.	8	1	1	...	16·98	110
	,, (Euximoor House)	H. West, jun., Esq.	5	0	8	15 ?	20·72	137
D	Thorney	A. J. Forrest, Esq.	8	3	6	9 ⅄	15·80	123
D	,, (Wryde House)	S. Egar, Esq.	5	1	0	7 T	18·85	146
D	Wisbech (Bank House)	A. Peckover, Esq.	8	0	8	6	19·78	143
D	,, (Monica Road)	W. Climenson, Esq.	8	1	2	6	18·13	127

DIVISION IV.—EASTERN COUNTIES.

	ESSEX.							
D	Grays Sewage Works	A. C. James, Esq., C.E.	8	2	3	12 ⅄	14·74	125
D	Orsett	W. Powell, Esq.	8	3	0	...	15·14	112
D	Barking Outfall	Sir A. R. Binnie, C.E.	8	0	6	6 ⅄	13·04	139
	East Ham	W. B. Bryan, Esq., C.E.	8	1	0	17	14·08	110
	Shoeburyness M	The Asst. Super. Expts.	8	2	6	3	12·18?	...
D	,,	,, ,, ,,	5	2	6	3	14·74	137
D	West Ham (Abbey Mills)	Sir A. R. Binnie, C.E.	8	1	0	11 ⅄	14·96	143
D	Barking Cemetery	E. H. Lister, Esq.	5	1	0	...	16·08	113
	Southend (Water Works)	C. S. Bilham, Esq.	8	1	0	112 ⅄	15·76	...
D	,, (,, ,, Eastwood)	,, ,, ,,	8	1	0	50 ⅄	16·75	112
D	Romford (North Ockendon)	Rev. R. T. Crawley	5	1	3	100 T	14·59	126
	Manor Park (Albany Road)	A. J. Wilmshurst, Esq.	5	3	0	...	14·09	...
D	Leyton (Lea Bridge Road)	C. E. Jones, Esq., C.E.	5	1	0	49 ⅄	16·29	125
D	Upminster Hall	Captain Swinton	5	1	0	120 T	15·82	127
	,, ,, M	,, ,,	5	1	0	120 T	15·70	...
	Romford (Hare Street)	W. Bose, Esq.	5	1	0	...	16·95	159
	Walthamstow (Ferry Lane)	W. B. Bryan, Esq., C.E.	8	1	0	30	16·87	125
	Woodford (Hagger Lane)	,, ,, ,,	8	1	0	176 ⅄	16·58	127
D	Billericay (Burghstead Lodge)	General Branfill	5	1	0	310 ⅄	17·51	148
D	,, (Norsey Manor)	Burnett Tabrum, Esq.	5	1	0	270 ⅄	17·48	134
D	Wickford (Runwell Hall)	Col. H. Kemble	5	1	0	75 T	17·45	120
D	Havering-atte-Bower	Mrs. Pemberton Barnes	5	1	0	...	16·25	144
D	,, Grange	G. P. Hope, Esq.	5	1	0	255 T	18·36	182
	Buckhurst Hill	W. B. Bryan, Esq., C.E.	8	1	0	275	16·94	...
	,, ,,	,, ,, ,,	8	34	0	305 ⅄	15·55	139

DIVISION IV.—EASTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above SeaLevel feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell
	ESSEX—(*con.*)							
	Chingford Mill	W.B. Bryan, Esq., C.E.	8	1	0	40 ⅄	16·53	120
	Brentwood (Sawyers Hall)	Rogers Field, Esq., C.E	5	1	0	270 ⅄	18·37	134
D	,, (Shenfield Rectory)	Rev. W. Quennell	5	1	0	305	18·38	139
	Loughton (High Beech)	W.B. Bryan, Esq., C.E.	8	1	0	376 ⅄	16·83	133
	Waltham Abbey	,, ,, ,,	8	1	0	62 ⅄	18·31	148
	,, ,, (Gunpr. Factory)	The Superintendent	5	1	6	70	16·48	...
	Epping (The Hemnalls)	J. Nicholl, Esq.	8	0	8	345	22·47	130
	Norton Mandeville (Readings)	C. Clarke, Esq.	5	2	6	316	16·32	...
	Bradwell-on-Sea (Bradwell Hall)	J.C. Chillingworth, Esq.	5	1	1	27	15·54	..
	,, ,, (Down Hall)	E. E. Chapman, Esq.	5	1	0	20	16·70	119
D	Danbury Rectory	Rev. J. Bridges Plumptre	5	1	0	365 ⅄	15·95	136
D	Writtle (Melbourne)	E. Rosling, Esq.	5	0	9	140 T	15·97	129
	,,	Miss Usborne	5	3	0	100	17·22	...
	Chelmsford (High Street)	F. Chancellor, Esq.	8	1	0	86 ⅄	17·27	132
D	,, (Spergula)	J.C. Thresh, Esq., M.D.	5	1	0	136 T	16·66	134
D	,, (Springfield Place)	Miss Jackson	5	0	11	143 ⅄	17·07	143
	,, (Roxwell)	R. W. Christy, Esq.	5	1	0	190 T	16·69	...
	,, (Broomfield)	W. Impey, Esq.	5	1	4	144 T	16·61	...
D	Hatfield Peverel (Cardfields)	A. Rosling, Esq.	8	1	2	76 T	15·57	136
	Abbess Roding	Rev. L. Capel Cure	8	1	6	300	18·61	...
	Great Clacton (Clay Hall)	Philip Smith, Esq.	5	2	0	40 T	17·49	104
D	Harlow (Sheering)	Rev. Canon Hill	5	1	0	214 ⅄	20·80	127
	Witham (Little Braxted Hall)	A. G. Taber, Esq.	5	1	0	50	17·42	142
	,, (Freebournes)	J. Wakelin, Esq.	5	0	6	70	18·16	141
D	Great Leighs	J. H. Tritton, Esq.	5	3	0	140 T	18·06	125
D	Fingringhoe (Ballast Quay Farm)	T. B. Grubb, Esq.	5	3	0	60 ?	17·41	129
	Colchester (Surrey Villa)	J. C. Hopwood, Esq.	5	1	0	110 T	19·30	121
D	,,	H. Goodyear, Esq., C.E.	8	16	10	82 T	18·12	128
D	,, (Hill House, Lexden)	S. F. Hurnard, Esq.	5	1	0	90 T	17·60	136
	,, (,, ,,)M	,, ,, ,,	5	1	0	90 T	17·50	...
	,, (Home Farm, ,,)	Mr. W. Bird	5	1	0	125 T	17·22	115
D	Braintree (Bocking, Fennes)	H. S. Tabor, Esq.	5	1	0	240 T	18·48	133
	,, (,, Place)	S. Courtauld, Esq.	8	2	3	212 ⅄	18·17	127
	Earls Colne (Chalkney House)	H. F. Hills, Esq.	5	1	0	180 T	19·86	...
D	Ardleigh	Rev. F. J. Ball	5	1	0	124 T	19·65	150
D†	Harwich (Ramsey)	Mr. Knights	5	0	6	80 T	21·31	146
	Halstead	The Royal Meteor. Soc.	5	1	0	144	19·05	134
	Langham Rectory	Rev. T. S. Raffles	5	0	7	134	21·29	150
D	Saffron Walden (Newport)	Rev. G. F. Tamplin	5	3	6	208 T	20·56	146
D	,, ,,	S. Leverett, Esq.	5	1	0	201 ⅄	21·19	156
D	,, ,, (Audley End)	Mr. J. Vert	5	1	0	155 T	20·45	171
	SUFFOLK.							
D	Felixstowe (West View)	S. Alexander, Esq.	5	1	0	70	19·32	132
D†	Erwarton Hall [Harwich]	J. A. Hempson, Esq.	8	0	6	75	20·26	110
D†	Ipswich (Woolverstone Park)	C. H. Berners, Esq.	8	1	0	100 T	20·90	136
D†	,, (Orwell Park)	Mr. J. Wallis	8	1	0	60 ⅄	22·31	142

DIVISION IV.—EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter.	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which '01 or more fell
			ft. in.	feet.	inches.	
SUFFOLK—(*con.*)						
†*Ipswich (Belstead Hall)..*new g.*	A. Harwood, Esq.	8	1 6	120 T	21·44	122
D Alderton Rectory	Rev. C. G. Archer	8	2 2	...	21·74	124
D Sudbury (Friars Street)	E. Ransom, Esq.	5	1 7	93 T	20·01	177
D ,, (Newton Road)	J. Alexander, Esq. ...	5	1 2	130 T	19·71	150
†Ipswich (Bishop's Hill).....	G.A.Biddell, Esq., C.E.	5	1 0	104 T	20·55	...
,, Museum	F. Woolnough, Esq....	8	0 9	72	19·35	141
D† ,, (Clare Lodge)	E. R. Turner, Esq., C.E.	5	1 0	178 T	20·46	117
Boyton Rectory	Rev. A. Washington...	8	2 2	30?	23·02	114
D Cavendish	S. J. Garrett, Esq.....	5	1 0	...	20·78	133
Lavenham Hall	W. Biddell, Esq.	5	2 9	220	19·30	104
D Woodbridge Abbey	Capt. Carthew	8	1 2	48 T	20·02	148
D†Rendlesham Hall	RtHon Lrd.Rendlesham	5	1 0	88 T	19·91	114
D Haverhill (Great Thurlow)	A. Boa, Esq.	5	1 0	241 T	20·15	157
Clare (Stansfield)	J. Slater, Esq.	5	1 0	300 T	22·30	...
D ,, (Hawkedon Rectory)	Rev. B. P. Oakes	5	3 4	305 T	20·93	157
Ash Bocking Vicarage.....*old g.*	Rev. M. B. Cowell.....	5	1 0	231 T	20·26	135
,, ,, ,, ... *new g.*	,, ,, ,, ...	5	3 4	231 T	20·05	135
D Parham (The High House)	H. R. Smith, Esq.....	5	1 0	93	19·58	106
D Aldborough (Aldringham Ho.)..	F. Garrett, Esq.....	8	4 5	50 B	18·98	146
D Great Glemham.....	Col. Bloomfield	5	0 10	80 T	21·73	113
D Little Saxham.....	Rev. H. I. Kilner	8	0 10	220	21·25	143
D BurySt.Edmunds(Westley)*new g*	R. Burrell, Esq.....	5	1 0	226 T	22·26	149
,, ,, ,, (FornhamSt.Martin)	Rev. J. S. Pratt	5	1 0	100	19·64	107
,, ,, ,, (Hengrave)	Mr. W. Nichol	5	1 2	91	20·11	...
D Bacton.....	C. H. Woods, Esq. ...	5	1 6	186 T	21·04	155
Darsham (Sibton)	Col. Ward	5	2 6	94	20·23	135
D Ixworth (Walsham-le-Willows).	Miss M. C. Martineau..	5	1 0	...	22·16	164
Stradbroke Rectory	Rev. Canon Tate	5	1 3	172 T	21·51	127
D Southwold	A. C. Herbert, Esq. ...	5	30 0	71 T	19·31	138
D ,, ...	,, ,, ,, ...	8	1 0	44 T	21·44	154
Ixworth (Barningham)	Miss A. K. Lingwood..	8	1 0	136	18·73	...
D Elveden Hall	Rt. Hon. Lord Iveagh..	5	1 0	130	23·24	195
D Beccles (Sotterley Hall)	Miles Barne, Esq.	5	0 11	...	22·42	132
D ,, (The Staith).....	Clifford Smith, Esq. ...	5	4 6	...	20·56	166
D Lowestoft (Bryn-y-Môr)	S. H. Miller, Esq.	5	1 0	86	22·54	143
,, (,, ,,) .....M	,, ,, ,, ...	8	1 0	86	22·38	...
D ,, (The Clyffe, Corton)...	R. J. Colman, Esq. ...	5	1 0	62 L	21·70	130
D ,, (LoundPumpingStation)	J. Ayris, Esq., C.E. ...	8	1 0	74	21·09	126
Fritton [Yarmouth]	H. E. Buxton, Esq. ...	8	0 11	40	20·02	135
D Burgh Hall [,,]	H. P. Frederick, Esq...	8	1 2	45 T	20·36	144
NORFOLK.						
D Scole Rectory.....	Rev. F. Page Roberts..	5	1 0	90	20·95	178
D Tivetshall St. Margaret	T. D. Kirby, Esq.	5	1 1	156 T	20·00	139
Santon [Brandon]	Rev. M. A. Gathercole.	5	0 10	32	20·50	168
Ellingham [Beccles]	H. Youngman, Esq. ...	5	3 0	..	19·90	...
D†Geldeston [,,]	E. T. Dowson, Esq. ...	5	1 0	38 T	22·08	154
,, [,,] .....M	,, ,, ,, ...	8	1 0	38 T	21·13	...

DIVISION IV.—EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
NORFOLK—(*con.*)						
D Saxlingham Nethergate	Mrs. Pitt	8	1 2	...	23·02	138
D Wymondham	E. B. Pomeroy, Esq.	8	1 3	118 ⇑	21·69	144
Watton	R. Martin, Esq.	5	1 0	166 ↑	21·62	136
D Hingham	G. Dobbs, Esq.	5	1 1	188	21·13	159
D Norwich (Dunston Hall)	late Rev. Canon Du Port	..	...	...	25·34	149
D Denver	,, ,, ,,	8	1 0	80 ⇑	20·19	144
Stoke Ferry (Wereham)	G. Read, Esq.	5	2 3	66	22·23	143
D Wymondham (Hethersett)	late Rev. Canon Du Port	6	1 3	163	20·53	121
Keswick Old Hall	E. Knight, Esq.	5	1 0	...	23·45	161
Outwell Sluice	A. Lunn, Esq., C.E.	9	...	16	18·88	129
D Moulton	late Rev. Canon Du Port	...	...	...	14·81	128
Emneth	F. M. Bland, Esq.	6	1 0	6	18·76	134
Yarmouth (Sailors' Home)	The Meteor. Council	8	4 0	12	20·93	154
D ,, (Market Place) *new g.*	W. C. Steward, Esq.	5	1 0	...	21·35	171
D Norwich (Postwick Hall)	V. Lanyon, Esq.	5	1 1	5	21·39	115
D ,, (Carrow House)	R. J. Colman, Esq.	5	1 6	35 ⇑	22·07	131
D† ,, (Brundall)	A. W. Preston, Esq.	5	1 0	66 ⇑	23·33	166
D† ,, (Thorpe High House)	late Rev. Canon Du Port	5	1 0	137 ↑	22·51	125
D ,, (Essex Street)	F. Dix, Esq.	9	2 6	88 ⇑	22·03	146
D ,, (Ipswich Road)	J. H. Willis, Esq.	5	1 0	110	22·00	146
D* ,, (Newmarket Road)	J. T. Hotblack, Esq.	8	1 2	89 ⇑	24·42	196
D ,, (Heigham)	J. R. Everitt, Esq.	5	3 2	37 ⇑	21·48	164
Acle	F. Cufaude, Esq.	5	0 6	51	19·83	...
D Swaffham	W. H. Plowright, Esq.	5	5 0	250 ⇑	21·10	145
,, (Homewood)	F. Everett, Esq.	5	2 6	210	20·85	117
Honingham	late Rev. Canon Du Port	...	...	...	19·63	...
D Sprowston (Oak Lodge)	T. Cozens Hardy, Esq.	5	1 0	101 ⇑	21·62	162
Taverham Hall	Mr. J. Clutsom	8	1 0	...	22·37	...
East Dereham	G. H. Cooper, Esq.	8	3 0	161	20·64	121
D Drayton	Miss Howell	5	1 2	50	19·99	109
D Swaffham (Dunham)	A. G. Copeman, Esq.	5	1 1	320	20·68	165
D Salhouse	Rev. T. F. Boddington	8	1 0	50	21·57	147
Wiggenhall (Outlet Syphons)	A. Lunn, Esq., C.E.	8	1 6	...	20·74	119
D Tilney St. Lawrence (Aylmer Hall)	W. B. Parsons, Esq.	8	1 0	9	20·16	166
D Bylaugh Park Gardens	Mr. G. Beeton	5	1 0	130 ↑	23·56	135
Litcham (Mileham Hall)	A. Collison, Esq.	5	1 7	...	21·80	...
D Reepham (Whitwell Vicarage)	F. W. Freeman, Esq.	8	2 0	120	21·57	162
Cawston	Rev. T. H. Marsh	5	1 0	135 ↑	21·60	165
Aylsham (Woodgate)	B. J. W. Purdy, Esq.	5	1 0	100 ↑	23·39	141
D North Walsham (Dilham)	Rev. J. A. Lawrence	5	0 8	...	22·65	176
,, ,, (Worstead)	R. Cross, Esq.	8	1 0	...	23·42	155
D ,, ,, (E. Ruston Grange)	W. S. Horn, Esq.	5	1 0	20 ↑	21·27	149
Hillington Rectory	Rev. H. Ffolkes	8	1 0	89 ⇑	22·08	179
D† ,, School	,, ,, ,,	5	3 6	94 ⇑	22·13	179
Fakenham (Pensthorpe)	W. Hamond, Esq.	5	2 6	153	20·04	...
D Cromer (Northrepps Hall)	Mr. Risebrow	5	0 4	200	21·40	168
D Holt (The Yuccas)	Mr. T. A. Craske	5	1 3	210	21·77	173
,, (Field Dalling)	J. H. Pearson, Esq.	5	1 3	158 ↑	18·97	139

DIVISION IV.—EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell
			ft. in.	feet.	inches.	
NORFOLK—(*con.*)						
Burnham Overy	Mr. W. L. Porritt	...	...	...	23·14	...
Holkham	J. Davidson, Esq.	12	4 0	43	16·81	...
D Blakeney	C. I. Temple Lynes, Esq.	5	1 3	29	18·30	151

DIVISION V.—SOUTH WESTERN COUNTIES.

WILTS.							
D Larmer Grounds [Shaftesbury]	General Pitt Rivers, FRS	5	3	0	500 T	30·34	167
D Rushmore [Shaftesbury]	,, ,, ,,	5	3	0	500 T	30·86	148
Landford (Northlands)	Mrs. Wigram	5	1	10	167 ⅄	27·70	148
D Donhead St. Mary (Charlton Ho.)	Col. G. Best	5	0	7	514	31·11	182
D† Alderbury	Rev. Canon Hutchings.	5	0	8	263 ⅄	23·74	147
D Tisbury (The Academy)	J. Bristol, Esq.	5	0	9	380 T	28·87	153
Salisbury (Tintinhull)	J. Lardner Green, Esq.	8	1	0	246 T	25·75	...
D ,, (St. Nicholas)	Rev. A. P. Morres	5	1	0	161 T	25·34	140
† ,, (Wilton House)	T. Challis, Esq.	8	0	5	180 ⅄	28·26	155
Winterslow (Roche Court)	T. T. S. Metcalfe, Esq.	5	1	0	459 T	25·50	180
D ,, (,, ,,) *new g.*	,, ,, ,,	5	1	0	459 T	24·02	180
†Mere (Dews House)	J. Farley Rutter, Esq.	5	1	7	384	29·15	139
† ,, Vicarage	Rev. J. A. Lloyd	5	3	0	350	28·35	...
D ,, (Charnage)	A. R. White, Esq.	5	1	0	426 T	28·11	168
D† ,, Down	T. H. Baker, Esq.	5	1	0	702 T	30·16	188
D† Maiden Bradley	Duke of Somerset	8	1	6	626 T	34·51	178
D† Warminster (Rye Hill)	S. E. Jefferys, Esq.	8	2	0	466 T	31·71	185
Salisbury Plain (Chitterne House)	R. Hayward, Esq.	11	4	0	319 T	23·24	154
D Warminster (Downside)	Mrs. Stent	8	2	3	393	29·59	164
D Ludgershall (Conholt Park)	G. Knowles, Esq.	5	1	0	750 T	27·68	145
D ,, (Collingbourne Kingston)	Baldwin Latham Esq CE	5	1	0	470 ⅄	24·13	144
D Market Lavington	Mr. T. Selfe	5	3	0	300	24·23	174
D Trowbridge (Water Works, Biss)	W. W. Gray, Esq., C.E.	5	1	0	311	28·83	148
D ,, (Rood Ashton)	Mr. W. Strugnell	8	1	6	250	22·84	146
,, (Steeple Ashton)	W. Cray, Esq.	5	1	3	260	24·88	146
D ,, (Rodney House)	W. J. Mann, Esq.	5	1	1	140	22·02	133
D ,, (Lovemead)	Dr. Tayler	8	1	0	100 T	24·66	150
D Bradford (The Chantry)	Dr. Beddoe, F.R.S.	6	0	9	125	22·98	148
D ,, (Holt)	A. J. Beaven, Esq.	5	1	2	120	23·54	167
Devizes (Wilts Co. Asylum)	Dr. Ireland Bowes	8	2	3	385 ⅄	22·35	154
Buttermere	Rev. W. E. Burkitt	5	2	6	847	26·25	156
Burbage (Wolf Hall)	Mr. J. B. Harding	8	1	2	546	23·96	...
D Shalbourne (West Court)	Miss Barns	5	1	0	550 ?	26·54	162
D Bishop's Cannings	Rev. C. W. Hony	5	1	0	446 ⅄	24·84	178
D Devizes (Shepherd's Shore)	Mr. J. Carter	5	1	6	555 T	21·25	152
D Chippenham (Lacock)	Miss Awdry	5	0	11	202 T	23·30	163
Marlborough (Preshute House)	Mr. G. E. Mew	5	0	9	...	25·52	...
,,	The Roy. Meteor. Soc.	5	1	0	450	24·84	166
D ,, (Mildenhall)	Rev. G. Soames	5	1	0	456	25·19	157

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
WILTS—(*con.*)						
D Calne (High Street)	Mr. H. Wilkins	5	3 6	244 T	20·76	161
D ,, (Compton Bassett)	Mr. W. A. Cook	8	1 0	385 T	24·26	162
Yatesbury	Rev. E. D. Guillebaud.	5	3 6	564 ⅄	25·63	...
Ramsbury (The Rookery)	F. C. Batson, Esq.	5	1 0	390 ⅄	23·11	160
D Wootton Bassett	H. Bevir, Esq.	5	1 6	421 T	21·96	163
D†Swindon, New	H. J. Southwell, Esq.	8	0 11	378	21·69	171
Highworth (Hannington Hall)	A.D.Hussey-Freke,Esq	5	1 0	400	21·12	156
DORSET.						
D Portland (The Manse)	Rev. W. R. Waugh	5	1 6	10	18·93	145
Weymouth (Wyke Regis)	Mrs. Pretor	5	0 9	158 B	25·01	135
,, (The Nothe)	The Royal Meteor. Soc.	5	1 0	79	21·70	134
D ,, (Markham House)	Rev. G. A. Rideout	5	1 3	180	25·74	154
Swanage (Royal Victoria Hotel)	H. B. Vincent, Esq.	5	1 11	26 T	25·21	149
,,	Rev. H. Pix	5	2 0	60	25·82	149
East Fleet (Fleet House)	Dorset Field Club	5	1 1	48	24·03	143
Chickerell Rectory	,, ,, ,,	8	0 8	...	22·42	128
,, (Montevidio)	,, ,, ,,	5	..	...	23·14	156
Corfe Castle (Creech Grange)	,, ,, ,,	5	1 2	200	28·97	120
D ,, ,, (Furzebrook)	L. W. Pike, Esq.	5	1 2	147 T	28·43	120
Upwey (Broadway)	Dorset Field Club	5	7 6	75 ?	26·63	...
,, (Westbrook)	A. Ilbert, Esq.	5	1 0	...	26·49	145
D Abbotsbury (New Barn)	Mr. J. C. P. White	5	1 6	111 T	23·63	148
D Portisham	W. Symes, Esq.	5	1 3	260	25·84	153
D Winterbourne Steepleton	H. Stilwell, Esq.	8	1 0	316 ⅄	30·26	172
D Wareham (Castle Gardens)	S. W. Bennett, Esq.	5	2 6	18	24·74	141
D ,, (Binnegar Hall)	O. C. Farrer, Esq.	5	1 0	65	26·14	159
Winterbourne Herringstone	R. B. White, Esq.	12	3 1	300	27·34	136
D Dorchester Water Works	G. J. Hunt, Esq.	8	1 2	315 ⅄	27·92	159
Poole (Hamworthy)	late J.M.Henderson,Esq	5	1 6	12	22·59	113
D ,, (Parkstone)	R. H. Barnes, Esq.	5	0 11	198 ⅄	26·79	153
D Bridport (Portville)	H. Gordon, Esq., C.E.	5	1 0	10 T	24·74	148
D ,, (Coneygar)	,, ,, ,,	5	1 0	110 T	28·59	146
D Bere Regis Vicarage	Rev. W. Farrer	5	1 0	160	24·08	151
,, ,, (Bloxworth Rectory)	Rev O.P.Cambridge FRS	5	1 3	205 T	28·28	154
D ,, ,, (,, House)	Col. Cambridge	5	2 0	100	25·73	124
D ,, ,, (Whitelovington)	F. D. Lys, Esq.	8	2 6	150	26·04	180
D Maiden Newton (Cattistock Lodge)	H. Hamilton Palairet Esq	5	1 0	350	33·22	164
D Sturminster Marshall (Bailie Ho.)	Rev. J. Cross	5	0 6	85	25·93	165
Wimborne (Codford)	General Maclean	5	1 0	69 T	27·98	...
D ,, (Rowlands)	,, ,,	5	4 6	100 T	28·65	117
D Beaminster Vicarage	Rev. A. A. Leonard	5	1 0	216 T	29·48	160
D Blandford (Whatcombe)	J.Mansel-Pleydell, Esq.	5	0 10	270 ⅄	27·31	177
D Broadwindsor (Blackdown House)	C. E. M. Pinney, Esq.	5	0 9	515	33·08	153
Winterbourne Houghton	Dorset Field Club	8	0 6	230	29·35	141
D Cerne Abbas (Melbury)	Mr. R. Rintoul	5	2 6	500	33·77	160
D Chedington Court	Mr. G. Jones	5	1 0	605	32·26	151
D*Wimborne Minster (Chalbury)	Rev. G. H. Billington	5	2 0	338 ⅄	24·42	148

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which .01 or more fell.
DORSET—(*con.*)							
D Wimborne Minster (Horton) ...	Rev. G. Wellington ...	5	1	0	135 T	26·45	150
D Hazelbury Bryan Rectory	Rev. Canon Wheeler...	5	1	0	305 R	*31·91*	149
D Verwood	W. R. Fryer, Esq.....	5	3	0	180	26·82	150
D Holwell (Westrow)	Mr. G. Coffin	5	1	0	290 T	27·79	158
Thornford Rectory [Yeovil].....	Dorset Field Club	5	0	11	175 ?	24·84	151
D Sturminster Newton (Riverside).	A. R. Hallett, Esq. ...	5	1	0	200	25·42	107
Shaftesbury	Royal Meteor. Soc. ...	5	1	0	722	27·29	176
D Buckhorn Weston.....	Rev. W. Hughes D'Aeth	5	1	0	285	25·49	174
D Gillingham	S. H. Stephens, Esq....	5	1	2	244 T	28·91	170
DEVON.							
Salcombe (Prawle Point)	The Meteor. Council ...	8	1	9	350	27·37	197
D ,, (Shadycombe)	Mr. T. Langmead	8	1	2	20	33·03	131
South Huish	W. Balkwill, Esq.....	5	5	6	68 T	28·22	...
D Revelstoke (Membland)	Mr. G. Baker.....	5	1	0	180 T	33·42	141
D Dittisham (Chipton)	Mr. H. Bond	5	1	6	342	35·54	144
D Plymouth (The Hoe).....	H. V. Prigg, Esq., C.E.	8	0	10	117 R	29·16	178
D ,, (Freedom Field)	,, ,, ,, ...	8	0	10	208 R	33·14	172
D ,, (Drake's Reservoir)...	E. Sandeman, Esq., C.E.	5	1	0	149 R	29·74	165
D*Devonport (Rowdens Res.)	H. Francis, Esq., C.E.	5	1	0	201 R	27·95	184
Ivybridge (Langham Hill) *old g.*	Miss Glanville	5	1	0	400 T	38·39	188
D ,, (,, ,,)*new g.*	,, ,, ...	5	1	0	400 T	40·89	188
D ,, (Blackadon Asylum)..	H. V. Prigg, Esq., C.E.	5	1	0	607	45·50	206
Plympton (Hemerdon) ...*garden*	Rev. G. L. Woolcombe	5	4	0	360	36·57	...
,, (,,)*tennis court*	,, ,, ,, ...	5	1	0	365	39·39	...
D South Brent (Great Aish).....	Miss Kingwell	5	1	0	500 T	52·04	198
D Totnes (Fernleigh).....	L. J. Oldreive, Esq. ...	5	1	1	94	37·18	158
Bere Ferrers	Rev. F. T. W. Wintle.	5	1	0	100	37·08	180
D Bickley (Roborough Reservoir)..	E. Sandeman, Esq., C.E.	5	1	0	550 R	39·78	206
D Torquay (Cary Green)	C. Shapley, Esq.	5	1	0	12	27·62	144
D ,, (Chapel Hill)	A. Chandler, Esq.....	5	1	0	275	27·88	164
D ,, (Watcombe Park)	Col. C. Ichabod Wright	5	1	0	483 R	28·58	154
†Lee Moor Clay Works	T. Martin, Esq.	8	1	6	950 T	50·37	...
Buckfastleigh (Bossel Park) ...	J. Hamlyn, Esq.....	5	1	0	250	48·25	205
D Meavy (Yelverton)	Dr. H. J. S. Liddell ...	5	7	0	620 T	48·81	166
†Sheepstor Vicarage	Rev. C. H. Crooke.	5	0	7	730 R	42·94	...
,, ...	E. Sandeman, Esq., C.E.	5	1	0	...	45·86	...
D† ,, (Red Stone)	,, ,, ,,	5	1	0	760 R	47·15	187
D ,, (Burrator)	,, ,, ,,	5	1	0	750	48·98	186
D† ,, (Head Weir).....	,, ,, ,,	5	1	0	715 T	47·40	179
D†Dartmoor (Lowery)	H. Francis, Esq., C.E.	5	1	0	890 T	47·68	180
D† ,, (Deancombe Farm) ...	E. Sandeman, Esq., C.E.	5	1	0	830 R	50·62	179
D† ,, (Leather Tor Farm)...	,, ,, ,,	5	1	0	910 R	49·97	200
,, (Siward's Cross)	,, ,, ,,	5	1	0	1200 R	46·68	...
,, (Cramber Tor)	,, ,, ,,	5	1	0	1435 T	50·96	...
,, (Leeden Tor).....	,, ,, ,,	5	1	0	1270	43·25	...
D Kingskerswell (South Hill)	E. A. Foster, Esq. ...	5	1	0	270 T	30·38	164
Abbotskerswell (Court Grange)..	Mrs. Marcus Hare	5	1	0	130 B	37·43	155

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
DEVON—(*con.*)						
D Ashburton (Holne Vic.)	Rev. J. Gill	5	1 6	650	43·22	199
D† ,, (Druid House)	Fabyan Amery, Esq.	5	1 0	584 T	42·37	183
D Kingsteignton (Teignbridge Ho.)	F. H. Plumptre, Esq.	5	1 2	27 ⅄	31·52	148
Teignmouth (Bonnicliff)	Capt. J. Horner	5	1 0	260 T	25·29	150
D Tavistock (Statsford, Whitchurch)	E. E. Glyde, Esq.	5	1 0	594 ⅄	45·74	204
D† ,, (Public Library)	Mr. J. Quick	8	20 0	283 T	39·85	192
Princetown	The Royal Meteor. Soc.	5	...	...	67·58	189
Dartmoor (Cowsic Valley)	H. Francis, Esq., C.E.	8	1 6	1352 ⅄	65·00	...
D Chudleigh (Ideford)	Rev. G. J. Ford	4	1 0	300 ⅄	32·75	177
Bovey Tracey (Little Bradley)	Miss C. N. Phillpotts	5	1 0	120	31·74	121
D ,, ,, (Colehays)	Mr. E. E. Underdown.	5	1 3	415 T	39·34	167
†Milton Abbot (Endsleigh)	Mr. F. Yole	5	1 0	180 T	44·16	...
D Dawlish (Mamhead Rect.)	Rev. W. C. Plenderleath	5	1 0	467 ⅄	34·06	186
D Exmouth (Nidderdale)	Mrs. Stewart	5	1 0	51	21·36	140
D ,, (Betworth)	C. M. Powell, Esq.	5	1 0	115 T	24·14	162
D Chudleigh (Tottiford)	W. Ingham, Esq., C.E.	8	4 0	718 ⅄	36·28	188
,, (Trusham)	Rev. O. H Cary	5	1 0	322 T	34·83	155
D Budleigh Salterton (Ravenshaw)	Col Carlile	6	1 0	50	23·73	123
D ,, ,, (Syon House)	H. Drummond, Esq.	5	1 0	...	24·69	154
D ,, ,, (Bicton)	Mr. Mayne	5	1 0	90	23·65	124
D Kenton (Southtown House)	Major Courtenay	8	2 6	56 ⅄	26·64	156
Coryton	Mr. T. M. Symons	5	2 0	285	36·61	170
D Polapit Tamar [Launceston]	R. C. Coode, Esq.	5	2 9	315 ⅄	34·22	194
Yeolmbridge	Miss Milnes	5	4 10	260 T	33·88	172
D Christow (W. W., Kennick)	W. Ingham, Esq., C.E.	8	1 0	842 ⅄	35·33	187
,, (Laployd)	,, ,, ,,	5	1 0	1030 ⅄	30·09	...
,, (Blackingstone)	,, ,, ,,	5	1 0	1090 ⅄	*26·74*	...
†Sidmouth (Sidmount)	The Royal Meteor. Soc.	5	1 0	149 ⅄	25·87	179
D*Rousdon [Lyme Regis]	Sir C. E. Peek, Bt.	5	1 0	516 ⅄	26·82	164
* ,, [,, ,,] M	,, ,, ,,	3	1 0	516 ⅄	25·39	...
D†Clevelands [Lyme Regis]	Mr. C. W. Bloye	5	1 11	465 ⅄	26·86	165
D Exeter (Devon & Exet. Inst.)	A. R. Allinson, Esq.	5	13 7	155 ⅄	25·75	161
D† ,, (Manston Terrace)	Miss Dymond	5	1 0	166 ⅄	25·70	163
D†Okehampton (Oaklands)	Genl. Holley	5	1 0	521 T	43·20	164
Exeter (Brampford Speke Station)	Mr. A. Tucker	5	1 0	83	27·55	113
D Honiton (Ivedon)	Col. James	5	1 0	430 T	29·42	172
D Cullompton	T. Turner, Esq.	5	1 0	202 ⅄	29·89	169
D Petrockstow (Heanton Satchville)	Mr. A. Eames	5	1 0	332 T	35·61	190
Tiverton (Broomhill)	Mrs. Dickinson	5	1 0	380	37·72	177
D ,, (St. Peter Street)	Miss Gill	5	6 0	270	34·98	185
D Otterford (Otterhead)	R. Lewis Lloyd, Esq.	5	1 0	735 ⅄	36·86	203
D Torrington (Stevenstone)	Mr. W. Gillies	5	1 0	420	39·27	187
D ,, (Little Silver)	Mr. P. H. Griffin	5	1 0	395	38·95	183
D Parkham (Melbury Moor)	Baldwin Latham Esq C.E.	5	1 0	623	45·50	226
D Romansleigh Rectory	Rev. J. H. Thompson.	5	1 0	590 T	36·53	215
D Bampton (Huntsham)	H. Acland Troyte, Esq.	8	1 0	640	43·70	208
D ,, (Wonham)	Mrs. J. R. Holland	5	1 0	530	37·29	202
D Hartland Abbey	Mr. G. Sleep	5	1 6	222 T	35·82	166

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter.	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
DEVON—(*con.*)						
D Alverdiscott (The Firs)	F. A. Trevan, Esq. ...	5	2 6	330 T	32·76	173
D Abbotsham (Riccard's Down) ...	Mrs. Hibbert	5	1 0	97 ⅄	30·55	187
D South Molton (East Street)	N.C.Hatherly, Esq.M.D	5	1 0	430 B	38·46	197
,, ,, ...	Rev. F. King	5	1 0	515 T	39·31	190
,, ,, (Castle Hill School)	Mr. W. H. Reeve	8	1 0	363	39·26	228
D Bideford (Gammaton W. W.)...	Baldwin Latham Esq CE	5	1 0	335 ⅄	33·54	170
*† ,, (Horwood)	Rev. J. Dene	5	1 0	288 T	27·96	172
,, (Northam, St. Helen's)	Miss L. Bowles	5	0 10	67	25·19	156
D*† ,, (,,)	Rev. Preb. Churchward	5	1 0	173 ⅄	30·71	170
Instow.....	Miss Lock	5	1 0	100 B	28·30	144
D Barnstaple Athenæum	T. Wainwright, Esq....	8	1 0	25 T	31·62	173
Braunton (Preston House)	Miss Durham	...	...	...	25·51	144
Barnstaple (Bratton Fleming) ...	T. Wainwright, Esq....	...	...	...	48·83	188
D ,, (Arlington Court) ...	Lady Chichester.....	5	1 1	613 B	50·60	203
,, (,, ,,) ...	,, ,, ...	5	1 0	613 B	53·54	205
D Woolacombe	E. Henshall, Esq., C.E.	5	1 0	60 ⅄	27·69	175
Parracombe	Rev. J. F. Chanter ...	5	3 0	795 T	41·74	170
Ilfracombe Hotel..... *new gauge*	The Royal Meteor. Soc.	5	1 0	24	33·23	172
D Martinhoe Rectory.....	Rev. R. W. Oldham ...	5	2 3	808	43·45	179
†Lynton (Lee Abbey)	C. F. Bailey, Esq.	5	0 6	320 T	34·04	...
D ,, (Gwynallt)	A. L. Ford, Esq.	8	0 8	284 T	39·74	176
D ,, (Glenthorne).....	Mr. Totterdell	5	0 9	93	41·05	152
D ,, (Rock House)	T. H. Mead-Briggs, Esq.	5	0 11	20	36·09	168
CORNWALL.						
D Penzance (Morrabs)	Mr. C. H. Benn	5	1 0	55	33·74	221
,, (Penlee)	J. Branwell, Esq.	5	1 0	71 T	35·03	209
D ,, (St. Clare)	Rev.Preben. Hedgeland	5	1 0	213 T	35·90	235
Marazion.....	T. W. Field, Esq.	5	2 0	30 ?	30·50	191
D Falmouth (New Observatory) ...	E. Kitto, Esq.	11	2 0	169 T	34·43	193
,, (,, ,,) ...	,, ,, ...	8	1 9	169 T	34·26	190
D ,, (Gyllyngvase)	A. Wilson, Esq.....	8	1 0	50	30·19	185
D Flushing (Trefusis)	W. Knatchbull, Esq....	5	0 4	200	31·94	166
D Falmouth (Carclew)	Mr. J. Simmons.....	5	0 9	...	35·20	168
D St. Ives (Phillack Rectory)	Rev. Canon Hockin ...	5	1 0	70	29·51	191
D ,, ,, ...	Dr. J. M. Nicholls.....	5	4 0	138 ⅄	31·54	167
D Redruth (Trevince)	E. B. Beauchamp, Esq.	8	0 8	240 T	35·55	196
,, ...	A. Lanyon, Esq.....	...	...	...	36·58	172
D ,, (Tehidy Park).....	Mr. A. Mitchell.....	8	1 1	287 ⅄	34·01	204
D Truro (Killiow).....	J. C. Daubuz, Esq.....	5	1 0	230 T	34·76	141
D ,, (St. Michael Penkevil).....	Rev. A. R. Tomlinson..	5	3 0	180 T	33·12	199
D† ,, (Royal Institution).....	R. A. Greg, Esq.	5	43 0	56 ⅄	33·22	179
D ,, (W.W.,LowerTregurrow)	Mr. W. J. Lean	5	0 9	71	33·78	180
,, (Agar Villa)	Mr. C. Barrett	5	3 9	50 B	36·26	...
Grampound (Heligan)	Gavin Hope, Esq.	...	...	...	34·04	184
D Probus (Lamellyn).....	H. Tresawna, Esq.....	5	0 6	...	34·33	152
St. Agnes	Mr. Opie	5	1 3	278 B	31·68	170

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height above Ground.	Rain Gauge. Height above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell
			ft. in.	feet.	inches.	
CORNWALL—(*con.*)						
D Fowey (Menabilly)	Mr. W. H. Bennett	5	1 0	150	36·05	167
D†*St Austell (Trevarna)	W. M. Coode, Esq.	5	0 6	300 R	37·12	204
Par Station (Penellick)	W. E. Geach, Esq.	5	0 9	240 T	31·85	...
D Empacombe [Devonport]	J. Sandercock, Esq.	5	0 6	20 T	30·12	163
D Cremyll [,,]	Mr. W. Wonnacott	5	20 0	25	26·90	165
St. John's [,,]	late Rev. J. H. Kirwan	5	1 0	20	34·61	163
D Antony Ho. [,,]	Mrs. Pole Carew	5	1 0	100 T	38·05	169
D Lostwithiel (Lanwithan)	Miss Foster	10	1 0	80	33·75	164
D Newquay (Prospect House)	A. Hardwick, Esq., M.D.	5	1 0	130	27·83	178
D Menheniot (Coldrenick House)	E. Jago, Esq.	5	1 4	...	39·73	196
D†Liskeard (Dean Terrace)	S. W. Jenkin, Esq., C.E.	5	1 1	375 R	42·11	199
D ,, (Trevillis)	L. C. Foster, Esq.	5	1 0	320 T	36·88	188
D ,, (Green Bank)	L. J. Bateman, Esq.	5	1 0	470 T	43·75	203
†Saltash (Pentillie Castle)	Mr. W. T. Johnson	5	2 4	150 B	42·49	197
D†Bodmin (Lanhydrock)	Rev. Prebendary Every	5	1 0	390	42·57	215
D ,, (Treledan)	H. D. Foster, Esq.	5	1 0	290	40·53	171
Liskeard (St. Cleer Down)	S. W. Jenkin, Esq., C.E.	5	1 1	620 T	39·44	...
Callington (Hingston Down)	Mr. Wadge	5	3 0	850 T	37·46	171
D†Launceston (Altarnon)	Rev. A. H. Malan	5	1 0	570 B	52·15	227
D ,, (Tamar Terrace)	Captain L. Ching, R.N.	5	0 10	446	37·92	189
North Tamerton (Ogbeare)	Mr. J. S. Bray	5	4 0	460 T	38·08	167
D Bude	J. Arthur, Esq.	5	1 0	16 B	31·52	145
D Stratton (Trelana, Poughill)	Col. Field	5	1 0	200 T	35·09	208
,, (,, ,,)	,, ,,	5	1 0	220	35·21	...
SOMERSET.						
Chard (Cricket St. Thomas)	Mr. Lyon	5	1 0	444	*28·62*	133
D Crewkerne (Bincombe House)	Miss Sparks	5	1 2	293 T	29·50	154
D Yeovil (West Coker)	Major Aldworth	5	1 0	260 T	28·32	186
D ,, (Gas Works)	E. Howell, Esq.	5	1 0	110 T	24·22	143
D Ilminster (Bay House)	J. C. Baker, Esq.	5	1 0	215 T	27·48	165
D ,, (White Lackington)	Rev. Prebendry Gowring	5	1 0	136 R	29·83	165
D ,, (Ilton Vicarage)	Rev. R. B. Poole	5	1 0	100 R	26·23	166
D ,, (,, ,,)	,, ,, ,,	8	0 10	104 T	27·92	183
D South Petherton (Bridge)	W. Blake, Esq.	8	0 8	110 T	25·50	165
D Taunton (Blagdon Hill)	H. T. Coles, Esq.	8	1 6	588 R	33·06	105
D ,, (Leigh Hill)	,, ,, ,,	8	1 6	525 R	31·76	105
D Wellington (The Avenue)	F. J. Burnett, Esq.	5	0 10	250 ?	29·42	161
Temple Combe Rectory	Rev. J. C. Fox	5	0 6	215	30·10	161
D Taunton (Claremont)	E. Ball, Esq.	8	1 2	80 T	25·66	164
D Milverton (The Nook)	Miss F. E. Bere	5	1 0	265	30·85	171
D North Cadbury Rectory	Rev. H. A. Boys	8	1 3	256 R	25·08	170
D Taunton (The Mount, Halse)	Miss Smith	5	1 1	254	31·72	220
D ,, (The Priory, Ash Priors)	Rev. G. S. L. Little	5	1 0	208 R	26·86	137
D Wincanton	Rev. W. Farrer	8	1 0	344	28·92	184
Cothelston House	C. E. J. Esdaile, Esq.	5	1 0	430	29·47	171
Castle Cary (Pitcombe Vicarage)	Rev. D. E. Norton	5	1 2	310 T	31·54	...

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground ft.	in.	Rain Gauge. Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
	SOMERSET—(*con.*)							
D	Somerton (Butleigh Court)	R. Neville Grenville Esq.	8	1	2	80	23·42	139
	Bruton (King's School)	Rev. D. E. Norton	5	0	10	280	30·38	...
	Winsford	Rev. Preb. Anderson	5	1	2	600	44·72	...
D	Glastonbury (Portway, Street)	Miss E. C. Impey	5	21	8	80	20·12	113
D	,, (Street)	W. S. Clark, Esq.	8	0	6	100	24·15	163
	,, (High Street)	J. Spire, Esq.	8	7	0	94 ⅄	24·07	165
D	,, (Ynyswytryn)	Mrs. Swayne	5	1	8	245 T	28·41	171
D	,, (Magdalene House)	J. G. L. Bulleid, Esq.	5	1	6	52 T	22·40	138
D	Bridgwater (Enmore Park)	T. P. Broadmead, Esq.	8	1	9	268	28·68	117
	,, (Nurseries)	H. Corder, Esq.	5	1	0	...	26·64	163
D	,, (Ashford)	F. Parr, Esq., C.E.	...	...		...	25·55	141
	,, (Nether Stowey)	W. D'Oyly, Esq.	5	0	10	211	26·40	160
D	Holford (Woodlands House)	Miss I. L. Joseph	5	0	9	391 T	29·89	187
	Stockland Bristol Manor House	Rev. H. A. Daniel	5	1	0	65	25·18	132
D	Shepton Mallet (Charlton)	F. H. Berryman, Esq.	5	1	0	481 ⅄	34·46	147
D	,, ,, (Sew. Fm., Darshill)	C. Hall, Esq.	5	1	0	301 ⅄	32·44	161
D	Wells (The Deanery Gardens)	Mr. A. King	5	1	0	170 ⅄	30·88	167
	Minehead	Rev. J. Utten Todd	5	1	0	41 ⅄	28·77	141
D	Cranmore (Cranmore Hall)	Sir R. H. Paget, Bt., M.P.	8	1	0	600 T	32·66	181
D	Frome (Mells Rectory)	Mrs. Horner	5	1	0	344 ⅄	29·85	182
D	,, (Orchardleigh)	Rev. W. A. Duckworth	8	0	10	303 T	26·10	159
D	Chewton Mendip (The Priory)	Rt Hon Earl Waldegrave	5	1	5	550 T	38·24	171
	,, ,, (Waldegrave Ho.)	J. Hansford Hill, Esq.	10	4	6	450	38·37	173
	Ston Easton	H. E. Hippisley, Esq.	5	3	0	480 ⅄	33·05	166
	Axbridge (Cross)	R. Binns, Esq.	5	0	9	100 ?	27·55	...
	E. Harptree (Sherborne Reservoir)	Bristol Water Works	5	1	0	338 T	32·11	153
D	,, (Harptree Court)	W. W. Kettlewell, Esq.	5	1	0	346 ⅄	37·23	158
	Axbridge (Winscombe Court)	Rev. R. F. Follett	8	1	0	180 T	27·92	128
	Radstock (Camerton Court)	Mr. J. Milne	5	1	6	...	29·99	132
D	,, (High Littleton)	Rev. A. M. Foster	5	0	10	442 ⅄	27·61	180
D	Hutton Rectory	Rev. W. F. Rose	5	1	0	75 ?	26·47	163
D	Pensford (Sutton Court)	Sir E. Strachey, Bt.	8	1	0	280	33·81	176
	Churchill	S. B. Pumphrey, Esq.	5	1	1	...	27·15	139
	Weston-super-Mare (High St.)	The Royal Meteor. Soc.	5	1	0	20	22·48	144
D	,, ,, ,, (Beaufort Rd.)	W. A. Fussel, Esq.	8	5	0	23 T	27·03	161
D	,, ,, ,, (Worle)	St. J. Kemm, Esq.	5	1	6	...	27·00	157
	Bath (Combe Hay Manor)	F. G. Smart, Esq.	5	1	0	...	27·21	150
	Wrington (The Rectory)	Rev. G. M. Ashdown	5	5	0	68	25·89	153
	,, (West Hay)	Gen. Harrison	5	2	0	100 T	29·09	153
	Chew Magna	Bristol Water Works	5	1	0	160 T	30·43	158
D†	Bath (Royal Institution)	S. W. Arnold, Esq.	6	8	0	75	24·58	144
D	,, (Fairley, Weston)	C. H. B. Hambly, Esq.	5	1	6	200	25·30	154
	,, (,, ,,) M	,, ,, ,,	5	1	6	200	25·26	...
D	,, (Charlcombe)	C. Gilby, Esq., C.E.	8	2	0	325 T	25·65	153
D	Batheaston	Col. Linley Blathwayt.	5	1	0	166 ⅄	24·69	155
	,, M	,, ,, ,,	5	1	0	166 ⅄	24·95	...
D	,, Reservoir	C. Gilby, Esq., C.E.	5	2	0	248 ⅄	24·70	172

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
SOMERSET—(*con.*)						
Yatton (Chelvey)	Bristol Water Works...	7	0 10	...	27·41	131
Barrow Gurney Reservoir	,, ,, ,, ...	5	1 0	320 T	30·34	167
D Long Ashton Estate Office	T. Dyke, Esq., C.E. ...	8	1 0	134 ⅄	28·96	174
D Flax Bourton (Tyntesfield)	A. Gibbs, Esq. ...	5	1 7	320 T	27·16	167
D Clevedon (Water Works)	E. Button, Esq. ...	5	0 9	28 ⅄	24·12	111
Bristol (Coronation Road)	H. C. Martin, Esq. ...	5	0 10	50	25·69	...
Wraxall	Rev. H. Vaughan ...	5	0 11	191	29·97	172
Abbots Leigh	H. R. Miles, Esq. ...	5	1 0	333 T	31·80	151
D Failand House [Bristol]	Miss Fry ...	12	2 10	400	28·55	171

DIVISION VI.—WEST MIDLAND COUNTIES.

GLOUCESTER.							
D Monkswood Reservoir [Bath]	C. Gilby, Esq., C.E. ...	5	2 0	365 T	24·34	178
D Bristol Docks (Underfall Yard)	late J. McCurrich, Esq CE	8	19 6	45 T	25·61	161
,, (Small Street)	Bristol Water Works...	12	33 10	52	27·32	140
D Clifton (Royal York Crescent)	Miss Bridge ...	5	8 2	226 T	29·30	184
D ,, (Cecil Road)	Miss Hooper ...	5	1 5	230	29·72	160
D ,, (Pembroke Road)	R. F. Sturge, Esq. ...	8	1 0	215	29·70	166
D ,, College	D. Rintoul, Esq. ...	8	1 2	230	30·93	156
,, ,,	,, ,, ,, ...	8	1 2	230	30·77	...
Bristol (Hampton Lodge)	J. H. Dix, Esq. ...	10	3 0	310	31·88	161
,, (Redland Green)	T. D. Sibly, Esq. ...	5	1 3	282	29·90	172
D ,, (The Grove, Fishponds)	H. H. Harding, Esq....	5	1 0	160 T	26·10	152
,, (Cote House)	H. St. V. Ames, Esq...	8	1 3	243 ⅄	28·10	152
D Horfield (H.M. Prison)	J.E. Prichard, Esq., M B	5	0 10	202 ⅄	28·27	143
Pucklechurch	Rev. S. G. Gillum...	5	0 10	370 T	26·11	163
D Filton	F. W. Gayner, Esq. ...	5	2 0	266	26·51	151
D Chipping Sodbury (Frampton Cotl)	J. Marsh, Esq. ...	5	1 6	180 ⅄	25·17	160
D ,, ,, (Stanshawes Ct)	R. N. Hooper, Esq. ..	5	1 3	280 ⅄	25·20	163
D Bristol (Over Court Park)	R. C.C. Lippincott, Esq.	5	0 9	147 T	31·60	194
D ,, (,, ,, Garden)	,, ,, ,,	8	1 0	137 T	29·00	186
Badminton	Mr. W. Nash ...	5	1 0	407	33·08	155
D Wickwar Rectory	Rev. R. J. Lyon	5	1 0	260 ⅄	26·95	154
Alderley	Gen. Hale ...	5	1 0	310 T	29·00	...
Tortworth Court	Mr. T. Edington ...	8	1 0	264	26·20	157
Dursley (Farnley)	R. W. Pinney, Esq. ...	5	0 10	251 T	26·95	121
D Fairford (Kempsford)	A. T. Iles, Esq. ...	5	1 0	...	19·26	151
D ,, (Horcott)	R. A. Iles, Esq. ...	5	2 6	...	20·97	132
D Berkeley (Castle Gardens)	Mr. R. Shore ...	5	1 6	62 T	26·33	141
D ,, (Sharpness New Docks)	F. A. Jones, Esq., C.E.	8	3 9	50	21·96	151
D Lechlade	T. Arkell, Esq. ...	5	0 9	253	19·99	138
,, (Southrop)	,, ,, ,, ...	...	1 0	...	21·24	124
D Amberley (Highlands)	Mrs. Blackwell ...	8	0 10	550 T	31·33	145
D Woodchester (Culver House)	Mrs. Davidson ...	5	1 0	372 T	27·11	144
D Lydney (Clanna)	Capt. Marling ...	5	1 0	260 T	28·35	165
D ,, (Priors Mesne)	H. Cook, Esq., M.D. ...	5	1 6	500 T	28·24	174

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which 01 or more fell.
			ft. in.	feet.	inches.	
GLOUCESTER—(*con.*)						
Cirencester (Roy. Agricultl. Coll.)	W. H. Sodeau, Esq.	5	1 0	443 ⅄	22·10	162
D ,, (Further Barton).....	late Miss E. Brown ...	5	1 0	422 ⅄	23·30	167
D Stroud (Stanley Park)	W. J. Paley Marling, Esq	8	1 0	365 T	24·38	150
D ,, (The Acre)	P. Witchell, Esq.	5	1 0	300	24·05	144
D ,, (Upfield).....	Miss Stanton	5	1 0	226 ⅄	23·67	160
Stonehouse (Wycliffe College)...	F. A. Sibly, Esq.	8	1 0	120	23·32	125
D Fairford (Hatherop Rectory) ...	Rev. R. P. Davies	8	1 3	411 ⅄	22·59	177
D Whitminster	F. A. Jones, Esq., C.E.	5	1 0	32 ⅄	22·74	139
Haresfield Court	Mr. S. Pearce.....	5	1 0	100	25·20	160
Coleford (The Coombs)	R. Tyrer, Esq.	5	1 0	660	34·47	194
Newnham-on-Severn.....	D. J. Wintle, Esq.....	5	1 3	56 ⅄	25·98	...
D Westbury-on-Severn (Chaxhill).	H. S. Grant, Esq.	5	1 0	120 T	20·09	130
D Great Barrington	H. J. Barrett, Esq. ...	5	1 6	430 T	20·91	122
Northleach (Sherborne House) ...	Mr. Scott	5	1 0	405	23·72	145
Gloucester (Quedgeley House)...	W. G. Robinson, Esq..	5	1 0	65 T	22·47	159
D ,, (Birdlip Hill)	A. S. Helps, Esq.	5	1 0	800 B	25·01	156
D ,, (Witcombe Res.).....	R. Read, Esq., C.E. ...	8	3 0	297 ⅄	24·37	129
D Mitcheldean (Blaisdon).....	P. Stubs, Esq.	5	1 0	117 ⅄	24·74	169
,, (,,)..... M	,, ,, ...	5	1 0	117 ⅄	24·78	...
D Gloucester (Hempsted)	F. A. Jones, Esq., C.E.	5	1 6	70 ⅄	21·31	166
D ,, (Llanthony Lock) ...	E.D. Marten, Esq., C.E.	5	1 2	39 ⅄	20·36	129
,, (Denmark Road).....	A. J. Stephens, Esq....	5	1 0	50	20·37	...
D ,, (Lower Barton Street)	W. P. Brown, Esq. ...	5	1 0	65 ⅄	22·65	155
,, (Churcham)	L. H. Hall, Esq.	5	2 1	90	21·43	123
D ,, (Wotton Asylum).....	Dr. Johnson	8	0 9	90 ⅄	22·46	138
D Cheltenham (Dowdeswell).....	J. Hall, Esq., C.E.....	5	1 0	357	25·53	154
D ,, (,,).....	A. E. Moss, Esq.	5	0 11	500	27·37	189
D† Gloucester (Maisemore Lock) ...	E.D. Marten, Esq., C.E.	5	1 1	39 ⅄	20·01	167
D Bourton-on-the-Water.....	E. W. Kendall, Esq....	5	1 0	434 T	26·13	152
,, ,, ,, (Chardwar)	G. F. Moore, Esq.	5	1 6	434	25·10	164
D Cheltenham (Battledown).....	Sir Brook Kay, Bt. ...	5	0 8	393 ⅄	23·36	148
D ,, (Northfield)	J. Hall, Esq., C.E.....	8	5 0	637 ⅄	21·44	150
D ,, (Hewletts Res.) ...	,, ,, ,, ...	8	1 6	419 ⅄	24·15	150
D ,, (Sandford)	,, ,, ,, ...	5	2 8	210	23·41	142
D ,, (Nauntons Pk. Villas)	M. Llewellyn Evans, Esq	5	0 9	240	24·27	158
D ,, (Heath Lodge) ...	Rev. M. A. Smelt	8	1 0	206	24·78	172
D ,, (Southam Villa) . .	R. Tyrer, Esq.	5	1 0	184 ⅄	24·23	173
,, (,, ,,) M	,, ,, ,, ...	5	1 0	184 ⅄	22·71	...
D Stow-on-the-Wold (Oddington).	Rev. H. B. Heberden..	5	0 9	400	24·41	154
D Moreton-in-Marsh (Longbro) *new*	W. Arkell, Esq.....	5	1 0	575	28·17	140
D† Tewkesbury (Upper Lode)	E.D. Marten, Esq., C.E.	5	1 0	41 ⅄	21·84	106
D ,, ...	J. Hall, Esq., C.E.....	5	0 10	47	19·40	132
D ,, (Beckford)	F. Slade, Esq., C.E. ...	8	1 0	120 ⅄	20·68	143
D Chipping Campden (Ebrington).	Rev. J. B. Wheeler ...	5	1 0	466 T	25·44	145
D ,, ,, (Hidcote) ...	Capt. W. Wright	5	1 0	525	23·73	143
HEREFORD.						
D Ross (Croome Hall)	W. E. Hancock, Esq...	8	4 0	288 ⅄	24·54	146
D† ,, (The Graig)	H. Southall, Esq.	5	1 0	213 ⅄	21·42	157

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground.	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell
			ft. in.	feet.	inches.	
HEREFORD—(*con.*)						
D Upton Bishop (The Baches).....	W. Hogarth, Esq.....	5	1 0	300	20·74	107
Ross (Perrystone Court)	Genl. Clive.....	5	1 3	...	19·17	145
Much Dewchurch (Bryngwyn)...	Sir J. Rankin, Bart. M.P.	5	0 9	416 T	23·52	153
Much Marcle (Homme House) ...	Mr. J. Maxton	5	0 11	280 T	21·29	...
D ,, ,, (Caerswall)	T. Charles, Esq.....	5	1 0	423 B	21·26	149
D Fownhope (Morney Cross)	O. E. Cresswell, Esq....	5	1 5	...	19·87	124
D†Ledbury (Orchardleigh)	M. A. Wood, Esq.....	5	3 0	180	21·16	151
D ,, (Underdown)	S. H. Bickham, Esq....	5	1 0	307 R	21·57	160
,, (,,) .....M	,, ,, ,, ...	5	1 0	306 R	21·10	...
,, (Putley Court)	J. Riley, Esq.....	5	1 0	290	20·73	150
Hereford (St. Michael's Priory)...	Rev. J. M. Dawson ...	8	1 0	291 R	23·21	155
D ,, (Breinton Court)	H. A. Wadworth, Esq.	5	1 0	238 T	20·62	149
D ,, (St. Owen Street)	Mrs. Jay Jones	5	6 0	190 T	21·81	163
D Lugwardine (The Laurels)	Mr. C. J. Johnstone ...	5	1 0	270 T	21·55	162
Yarkhill Vicarage.....	Rev. A. G. Jones	8	1 0	190	20·50	154
D Canon Frome Vicarage	Rev. M. Hopton.....	8	1 3	252 T	18·86	158
D†Malvern Hills (Upper Wych) ...	Baldwin Latham Esq CE	5	1 0	1006 R	20·55	128
D Hereford (Burghill Court)	Miss E. D. Woodhouse	5	0 10	293 T	22·82	178
,, (,,) ..... No. 3	C.S. Morrison, Esq. M.D	5	1 0	293 T	20·85	166
D Brinsop Vicarage	Rev. A. Relton	5	1 0	285 T	20·00	137
D Hope-u-Dinmore (Hampton Ct.)	J. H. Arkwright, Esq..	8	1 2	212 B	20·71	149
D Weobley (Dilwyn)...	T. L. Hall, Esq., M.D.	5	0 8	290 T	23·30	170
D Kington (Lynhales)	S. Robinson, Esq.	8	1 0	566	25·72	196
,, (Belmont)	The Royal Meteor. Soc.	5	1 0	...	23·40	160
D ,, (Gravel Hill)	Col. G. F. Pearson.....	5	0 8	540 T	27·89	206
D Pembridge (Marston).....	H. Langston, Esq.....	5	1 5	347 R	23·22	168
D Bromyard (Buckenhill).....	R. Phipps, Esq.....	8	1 9	...	22·31	129
D Leominster (Farm)	Miss Southall	5	1 6	268	20·62	163
SHROPSHIRE.						
D Ludlow (Ashford)	Rev. J. Selwood Tanner	5	1 2	265 T	22·41	178
D ,, (,, House)	W. Downes Hall, Esq.	5	0 5	315 T	24·76	182
D ,, (The Sheet)	Rev. R. P. Dansey ...	5	1 0	370 T	23·64	191
D Cleobury Mortimer (The College)	J. Davis, Esq.	5	3 8	440 T	19·16	154
D Bromfield (Priors Halton).....	Miss Beddoes	5	1 0	300	23·36	188
D ,, Vicarage	Rev. W. Selwyn	5	1 0	300 T	23·70	166
D Clunbury Vicarage	Rev. W. Clark Maxwell	5	1 0	497	25·70	148
Craven Arms (Stokesay Vicarage)	Miss La Touche.....	5	1 0	371 R	23·56	166
D Bridgnorth (Coton Hall)	E. M. Wakeman, Esq..	5	1 2	460 T	21·71	146
Bishop's Castle (Totterton)	W. H. Whitaker, Esq.	5	0 7	...	25·28	...
,, ,, (Castle Street)...	E. Griffiths, Esq.	5	2 0	720 B	26·26	192
Bridgnorth (Quatford)	Rev. W. J. Pinckney...	5	1 0	170 T	19·81	165
D Church Stretton (Burway Ho.)...	H. Barnett, Esq., M.D.	5	1 0	675 R	27·96	183
Bridgnorth (Cantreyn Bank) ...	Rev. H. M. Stallybrass	6	3 9	320 R	24·74	126
D ,, (Aldenham Park) ...	late W. De Wend Fenton	5	3 9	430 T	19·86	134
Church Stretton (Preen Manor)...	C. B. Sparrow, Esq. ...	5	1 0	700 T	23·15	163
D ,, ,, (Woolstaston)...	Rev. E. D. Carr.	5	1 0	800 R	26·63	185

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell
				ft. in.	feet.	inches.	
	SHROPSHIRE—(*con.*)						
D	Middleton Chirbury	Rev. W. Brewster	5	1 2	702 ⅄	25·80	204
D	Much Wenlock (Willey Park)	Rt. Hon. Lord Forester	5	1 0	502 ⅄	21·90	156
D	Pontesbury (Somerville)	W. R. Croft, Esq.	5	1 6	355 T	21·37	121
	Minsterley (Hampton Hall)	J. Whitaker, Esq.	...	1 0	630 T	27·41	...
D	,, (Wallop)	J. E. Severne, Esq.	8	1 3	700 T	33·48	179
D	Shifnal (Neachley)	Hon. F. Bridgeman	5	1 6	280 T	22·11	180
D	,, (Haughton Hall)	Mr. A. S. Kemp	5	3 0	355	21·14	146
D	Shrewsbury (The Abbey House)	Miss F. Rouse Boughton	8	1 3	171 ⅄	18·50	156
D	Newport (Edgmond)	J. Bodenham, Esq.	8	1 0	261 T	21·83	177
	Hadnall (Hardwick Grange)	Mr. J. Taylor	5	1 6	275 T	23·04	...
D	Wem (The Clive Vic.)	Rev. J. Cooper Wood	5	1 0	299 ⅄	23·98	213
D	Cheswardine (Knighton Res.)	G. R. Jebb, Esq., C.E.	8	0 3	651 ⅄	26·38	188
	Oswestry (The Mount Reservoirs)	G. W. Lacey, Esq.	5	1 0	698 ⅄	31·29	134
	Market Drayton (Buntingsdale)	Mrs. Tayleur	5	1 0	276 ⅄	23·96	...
D	,, ,, (Fernleigh)	J. Beaumont Piercy, Esq.	5	1 0	310 ⅄	25·04	174
	Ellesmere (Oteley)	Mr. Pearse	8	1 8	292	29·77	174
D	Adderley Rectory	Rev. A. Corbet	5	0 9	277 T	25·10	171
	STAFFORD.						
	Dennis [Stourbridge]	E. B. Marten, Esq., C.E.	8	6 6	270 B	19·64	162
D	Netherton (Lodge Farm Res.)	G. R. Jebb, Esq., C.E.	5	1 0	445 ⅄	19·15	151
D	Dudley (Shavers End)	H. A. Hill, Esq., C.E.	5	1 0	744 T	19·18	150
	West Bromwich	A. D. Greatorex Esq., CE	8	4 6	547 T	22·01	147
D	Wombourne (The Bratch)	Baldwin Latham Esq CE	5	0 9	271	19·83	198
	Wednesbury (Ocker Hill)	E. B. Marten, Esq., C.E.	...	...	...	17·83	161
	Walsall	,, ,, ,,	8	4 0	463 ⅄	26·33	179
D	,, Sewage Farm	R. H. Middleton, Esq. CE	8	0 11	376 ⅄	24·06	136
D	,, (Wednesbury Sewage Wks.)	T. Wicks, Esq.	5	2 8	381 T	20·33	142
	Wolverhampton (Graiseley)	R. E. W. Berrington, Esq	5	0 9	506 ⅄	19·87	176
	,, (Town Hall)	J. W. Bradley, Esq. C.E.	5	15 6	481 ⅄	19·86	128
	,, (West Park)	,, ,, ,,	5	1 0	432 ⅄	20·69	164
D	,, (Tettenhall)	R. T. Smith, Esq., C.E.	5	1 0	475 ⅄	20·85	181
D	,, (Wrottesley)	Mr. E. Simpson	8	1 0	500	21·01	137
D	Tamworth (Bonehill House)	Major Chichester	5	1 0	289 T	20·02	156
D	Bloxwich (Sneyd Res.)	G. R. Jebb, Esq., C.E.	5	1 0	507 ⅄	20·55	146
D	Hammerwich (Cannock Chase Res)	,, ,, ,,	5	1 0	475 ⅄	19·22	168
D	Weston Park [Shifnal]	Rt. Hon. Earl of Bradford	5	1 6	400 T	20·94	165
D	Brewood (Belvide Res.)	G. R. Jebb, Esq., C.E.	8	1 0	367 ⅄	20·92	121
	Lichfield (Maple Hayes)	A. O. Worthington, Esq.	...	...	380	20·56	...
D	Penkridge (Rodbaston)	H. Ward, Esq.	5	1 0	324 ⅄	21·56	160
D	Hednesford	H. A. Hill, Esq., C.E.	5	1 0	750 ⅄	17·95	157
	Shugborough	Rt. Hon Earl of Lichfield	5	1 0	260	22·63	178
D	Burton (Rangemoor)	Mr. Bennett	5	5 6	424 T	22·18	186
D	,, (Shobnall)	Messrs. Bass & Co.	5	5 0	156 T	19·76	152
D	,, (Hoar Cross)	F. W. Lycett, Esq.	8	4 0	400 T	23·30	152
	Stafford (West Bank, Doxey) M	Mr. Leslie Wilson	5	0 6	280 T	24·32	...
D	Salt Vicarage	Rev. S. W. Jones	8	0 8	266	23·62	186

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
STAFFORD—(*con.*)						
D Uttoxeter (Brook House)	Mr. J. J. Gibbons	5	1 0	283 ⅄	23·93	200
D Market Drayton (Old Springs)	F. E. Harding, Esq.	5	0 8	423 ⅄	25·78	197
D Maer Hall Gardens	Mr. J. Harris	5	1 6	...	28·84	206
D† Cheadle (The Heath House)	J. C. Philips, Esq.	5	1 0	647 ⅄	27·79	184
D Longton (The Meir)	G.D.Harrison, Esq.C.E.	5	1 0	618 ⅄	30·28	177
D Newcastle (Madeley Vic.)	Mr. W. Pye	5	1 0	347 ⅄	25·70	139
D Stoke (Hartshill)	J. Knight, Esq.	5	1 0	485 ⅄	31·58	178
,, (Stanley Reservoir)	E. B. Smith, Esq., C.E.	5	3 1	550 T	21·74	154
Etruria	,, ,, ,, ,,	5	4 2	440	30·51	110
Alstonfield Vicarage	Rev. W. H. Purchas	5	1 0	910	33·41	146
D Leek (Wall Grange)	G.D.Harrison, Esq.C.E.	5	1 0	458 ⅄	31·92	166
WORCESTER.						
Blockley (Upton Wold)	E. W. Arkell, Esq.	5	0 10	...	26·11	123
Northwick Park	Lady Northwick	8	1 6	410 ⅄	27·15	...
D Bredon's Norton	G. C. Norman, Esq.	8	1 0	200 T	20·83	156
Upton-on-Severn (Willow Bank)	J. S. Cowley, Esq.	5	1 3	...	21·29	136
D ,, ,, (The Eades)	E. Tennant, Esq.	5	0 9	100 T	22·63	163
Evesham (Lansdowne)	R. Burlingham, Esq.	5	5 0	108 T	20·23	...
Gt. Malvern (British Camp Res. S.)	H. P. Maybury, Esq. C.E	5	1 7	677	22·70	127
,, ,, (,, ,, ,, N.)	,, ,, ,,	11	0 11	677	22·46	...
D† ,, ,, (Church Street)	,, ,, ,,	5	1 0	361 ⅄	21·27	126
D† ,, ,, (Belle Vue House)	A. Mander, Esq.	5	4 0	520	22·19	148
† ,, ,, (Madresfield Rect.)	Rev. G. S. Munn	5	1 4	124 ⅄	20·75	147
D† ,, ,, (,, Court)	Mr. W. Crump	8	2 6	135 T	19·07	139
D Leigh Lodge	Insp.-Gen. M. W. Cowan	5	1 3	110 T	17·23	147
D† Worcester (Diglis Lock)	E. D. Marten, Esq., C.E.	5	1 0	49 ⅄	19·92	168
,, (Belmont Road)	G. B. Wetherall, Esq.	5	1 3	180 T	18·22	156
D ,, (Water Works)	T. Caink, Esq., C.E.	5	0 8	52 ⅄	17·63	163
D† ,, (Bevere Lock)	E. D. Marten, Esq., C.E.	5	1 1	52 ⅄	17·47	155
D ,, (Hawford Lodge)	F. Ames, Esq.	5	1 1	70	18·91	126
D† Droitwich (Holt Lock)	E. D. Marten, Esq., C.E.	5	1 1	55 ⅄	19·11	126
D Tenbury (Rochford)	Rev. J. Tomson	5	1 0	317 ⅄	21·98	123
D Redditch (Prospect Hill)	H. Page, Esq., M.D.	5	1 0	425 T	21·36	146
D Bromsgrove (Tardebigge Res.)	F. A. Jones, Esq. C.E.	5	3 0	433 T	21·77	156
D† Stourport (Lincombe Lock)	E. D. Marten, Esq., C.E.	5	1 0	62 ⅄	18·78	144
D Alvechurch (The Uplands)	J. Grubb, Esq.	5	3 0	600 ?	22·97	180
D Bromsgrove (Lower Bittal Res.)	F. A. Jones, Esq. C.E.	5	3 0	430 T	22·93	126
D Bewdley (Winterdyne Gardens)	Mr. W. Wrather	8	2 0	...	18·02	126
D Kidderminster (Woodfield)	Rev. J. R. Burton	5	3 0	167	18·58	143
D ,, (Prospect Hill)	Mr. J. T. Cowderoy	...	5 9	161 ⅄	16·22	160
Stourbridge (Pedmore)	E. B. Marten, Esq., C.E.	8	0 11	350 ⅄	22·08	154
,, (Longlands)	,, ,, ,,	...	...	...	20·02	158
D Northfield (Longbridge)	Mrs. Impey	5	0 9	560 T	25·05	149
Lifford Sewage Works	J. H. Webb, Esq., C.E.	5	1 0	427 ⅄	23·29	128
Kings Heath (Cambridge Road)	,, ,, ,,	5	2 6	518 ⅄	23·89	140
Selly Oak Cemetery	Mr. W. Garden	5	1 4	540 T	23·90	153

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	WORCESTER—(*con.*)						
	Moseley (Woodstock Road)	C. J. Fowler, Esq.....	5	2 4	440 ⅄	23·74	161
	Dudley (Trindle House)	E.B.Marten, Esq., C.E.	8	1 0	575	22·84	212
	WARWICK.						
	Long Compton (Weston Park)...	H. A. Warriner, Esq...	8	3 10	510 ⊺	21·23	128
D	Shipston (Compton Wynyates)...	J. Sargent, Esq.....	5	2 6	480	22·84	175
	Farnborough	Miss Prater	5	1 0	520 ⊺	26·78	166
	Fenny Compton (The Grange)...	Miss E. C. Knott	5	4 0	436	22·94	...
D	Stratford-on-Avon (Guild Street)	Rev. F. Smith	12	4 0	135 ⊺	21·90	150
D	Alcester (Ragley Gardens)	Mr. A. Christie	5	1 0	150 ⊺	21·33	163
D	Snitterfield	R. Dixon, Esq.	5	1 0	304 ⅄	20·49	127
D	Warwick (Barford Rectory).....	Rev. C. Mills.....	8	0 11	167 ⅄	20·84	165
	Southam	E. Turner, Esq.....	5	1 0	304	22·87	...
	,, (Bascote).....	H. Campion, Esq.	10	2 6	...	19·07	...
	Leamington (The Parade).....	J. Barnitt, Esq.	5	4 8	195 ⅄	18·69	136
	Henley-in-Arden (Barrells Park)	T. H. G. Newton, Esq.	5	1 0	318 ⅄	21·75	145
	Warwick (Hatton Vicarage) ...	Rev. H. Trethewy.....	5	1 0	384 ⊺	21·78	168
	Milverton (Latmos)	Rev. E. Healy	5	1 2	191 ⊺	19·88	...
	Leamington (Cubbington)..... ..	Mrs. Robins	6	1 0	280 ⊺	20·14	128
D	Kenilworth (The Spring)	W. Evans, Esq.....	5	1 0	312 ⅄	21·11	160
	Rugby (Dunchurch Hall)	A. H. Harrison, Esq....	5	2 8	397 ⊺	22·38	...
	,, (Temple Observatory) ...	E. Kitchener, Esq. ...	5	1 3	383 ⊺	21·98	159
D	Coventry (City Hospital)	E. H. Snell, Esq., M.D.	8	1 0	266 ⊺	19·87	136
D	,, (Priory Row).....	J. Gulson, Esq.	8	1 3	279 ⅄	22·25	158
	,, (Kingswood)	R. B. Caldicott, Esq....	8	1 0	340 ⊺	25·55	...
D	,, (Keresley Grange).....	Miss Rotherham.....	5	0 10	413	20·06	153
D	Shirley	B. Boothroyd, Esq. ...	5	1 0	466 ⊺	24·47	177
	Sparkbrook (Grantham Road) ..	F. O. Lane, Esq.	5	1 0	410 ⊺	23·76	...
D	Birmingham (Sheldon Rectory)..	Mrs. Jones Bateman ...	8	1 0	323	24·24	150
D	,, (Edgbaston).....	A. Cresswell, Esq.....	8	1 0	535	21·50	140
D†	,, (Botanic Gardens)..	Mr. Latham	5	5 2	505 ⊺	20·60	158
D	,, (The Crescent).....	J. J. Gilbert, Esq.....	5	21 0	495 ⅄	19·80	127
	,, (,, ,,) ...M	,, ,, ,, ...	5	7 0	480 ⊺	21·63	...
D	Bedworth Cemetery	Mr. D. Bosworth	5	1 0	385 ⊺	21·52	124
D	Witton Reservoir	E. Anty Lees, Esq. ...	5	2 6	347 ⅄	21·65	146
D	Whitacre (Birmingham W.W.)..	,, ,, ,,	5	1 3	269 ⅄	21·58	148
	Sutton Coldfield (Ladywood) ...	F. Rathbone, Esq.....	5	0 8	500	21·95	...
D	Atherstone	BaldwinLathamEsq CE	5	1 0	286 ⅄	22·42	173

DIVISION VII.—NORTH MIDLAND COUNTIES.

	LEICESTER.							
	Lutterworth (Walcote)	Major Corbet Smith ...	5	0	6	390 ⊺	23·54	...
	Fleckney.....	J. B. Putt, Esq.....	5	1	0	411 ⊺	24·52	...
D†	Kibworth Beauchamp	E. V. Phillips, Esq. ...	5	2	6	355 ⊺	23·81	142
	Hallaton Hall.....	Mr. Huggard	8	1	3	324	20·27	...

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which '01 or more fell.
			ft. in.	feet.	inches.	
LEICESTER—(*con.*)						
D Leicester (Town Hall Square) ...	E.G.Mawbey,Esq., C.E.	9	1 7	212 ⅄	19·57	136
D ,, (,, ,, ,,) ...	,, ,, ,, ...	5	0 6	211 ⅄	19·74	137
,, (Humberstone Asylum)	J.E.M.Finch,Esq.,M.D	8	1 0	244 ⅄	21·15	185
D†Thornton Reservoir	F. Griffith, Esq., C.E..	8	1 2	371 ⅄	22·35	143
D Thurcaston Rectory	Rev. T. A. Preston ...	5	1 0	253 T	21·00	145
D ,, (Cropston)	F. Griffith, Esq., C.E..	8	1 0	246 ⅄	24·12	164
D Syston.....	S. K. Daniels, Esq. ...	5	1 6	180 T	22·14	143
D Swithland (The Brand)	F. Griffith, Esq., C.E..	8	1 0	172	22·56	152
Ratcliffe-on-Wreake College ...	Rev. J. Cremonini.....	5	1 0	288 T	*19·47*	...
Ashby-de-la-Zouch (Cole Orton)	Rev. Canon Beaumont.	5	1 6	480	22·24	...
D Loughborough (Nan PantanRes.)	A.H.Walker,Esq.,C.E.	8	1 0	269 ⅄	21·19	155
,, (ForestRd.Cottage)	Adrian Young, Esq. ...	5	0 10	150 T	20·46	133
D ,, (Forest Road)	W. Berridge, Esq.....	5	0 9	147 ⅄	20·02	166
,, (,, ,,)	,, ,, ,,	8	1 0	147 ⅄	20·01	166
Burton-on-the-Wolds	Lord Percy St. Maur...	...	...	...	21·11	144
Prestwold Hall	Hussey Packe, Esq. ...	8	0 9	209 ⅄	21·22	153
D Waltham-le-Wolds	Mr. Higgens	5	1 0	568	22·77	159
D Harby.....	J. Norman, Esq.	5	1 0	...	19·35	124
†Belvoir Castle ..... *old g.*	W. H. Divers, Esq. ...	8	1 0	260 T	17·30	...
D ,, ,, ... *new g.*	,, ,, ,, ...	8	1 0	260 T	19·63	160
RUTLAND.						
D Uppingham (West Deyne)	Rev. G. H. Mullins ...	8	1 2	487 ⅄	19·30	145
Ketton Hall [Stamford]	F. Coventry, Esq.	5	...	130	18·73	122
Tinwell, South View [Stamford]	H. Edwards, Esq.... ..	5	1 1	...	18·77	120
Burley-on-the-Hill	Mr. W. Temple	8	1 0	506	20·72	126
D Tolethorpe Hall [Stamford].....	C. O. Eaton, Esq.	8	0 8	161 T	18·46	126
D Market Overton.....	Miss Grace Wingfield...	8	0 11	475 T	21·62	134
Stocken Hall	Capt. P. F. Tillard.....	5	1 0	365 T	20·91	109
LINCOLN.						
Stamford (Bleak House)	R. M. English, Esq. ...	5	0 6	176 T	18·54	...
,, (Northfields)	J. Edmonds, Esq.	6	1 3	181 T	19·93	...
D Market Deeping (Wilsthorpe) ...	J. C. Gill, Esq., C.E....	8	3 10	55 ⅄	16·72	138
Long Sutton	Mr. J. Tilson	5	4 0	18	20·40	143
Spalding (Pode Hole)	Mr. W. Grigg	12	1 0	20 ⅄	20·25	...
Grantham (Stainby)	Rev. W. A. H. Thorold	5	0 9	496	21·28	...
D ,, (Denton Manor)	Sir C. G. E. Welby, Bt.	5	1 6	275 T	21·32	174
D ,, (Little Ponton Rect.).	Rev. P. R. Worsley ...	5	1 0	250 T	23·77	176
,, (Saltersford).....	H. Preston, Esq.	5	0 6	188 ⅄	19·16	136
D ,, (Guildhall)	F. J. Morris, Esq.	5	13 6	202 ⅄	20·86	165
D ,, (High Street)	Messrs. H. & W. Bird..	...	...	...	20·15	118
,, (Syston Park)	Mr. J. Ashby.....	5	1 0	200	19·88	165
D Boston (Black Sluice, Skirbeck).	H. Clarke, Esq., C.E...	8	1 3	19 ⅃	20·19	130
D ,, (Grand Sluice)	C.G.W.Phillips,Esq,CE	8	8 0	18	20·13	145
D ,, ...	W.H.Wheeler,Esq.C.E	5	6 6	25 ⅄	19·30	138
D Sleaford (Rauceby Hall)	Col. M. Willson, C.B...	5	1 6	125 T	21·05	140

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
LINCOLN—(*con.*)						
D Leake (Lade Bank Engines)	C.G.W.Phillips,Esq,CE	8	1 0	10 ⅄	19·59	119
D Stubton [Newark]	G. Nevile, Esq.	5	4 6	94 T	18·77	124
D Fulbeck	Rev. V. F. Willson	5	0 11	180 ⅄	18·24	150
Sleaford (Bloxholm)	Mr. W. Lumsden	5	1 6	20	17·74	107
Carrington Grange	Mr. T. J. Ward	5	6 0	15 ⅄	19·72	...
D Carlton-le-Moorland	J. Brocklebank, Esq.	5	1 2	49	18·80	114
Kirkstead	Mr. R. H. Brett	5	1 3	...	16·12	...
,, (Woodhall Spa)	C.J.Williams,Esq.,M.D	5	1 0	37 T	19·07	119
D Skegness	H. V. Tippet, Esq.	8	1 8	10 L	21·28	137
D Horncastle (Revesby*)	J. Shaw, Esq.	5	2 0	135 ⅄	19·20	104
D Spilsby (Hagnaby Priory)	Miss Pocklington	8	1 8	47 ⅄	22·60	133
D ,,	Dr. J. W. Walker	5	1 0	160 T	23·16	162
D ,, (Boston Road)	Mr. J. J. Rainey	5	1 0	130 T	21·47	150
D ,, (Hagworthingham)	Mr. R. Wright	5	1 1	252 ⅄	24·80	149
D ,, (Dalby Grange)	J. H. Wright, Esq.	5	1 6	250	21·37	150
D Horncastle (Bucknall)	W. Carter, Esq.	5	1 0	50	18·14	111
D Lincoln (Branston)	A.S.Leslie Melville,Esq	5	1 3	122 ⅄	19·58	130
D† ,, (Boultham)	Mr. F. Terrill	5	1 0	19 ⅄	21·13	142
D ,, (Moorlands,Skellingthorpe)	Major Warrener	5	1 2	27 T	20·59	136
D† ,, (St. Botolphs)	A. M. Swift, Esq.	5	1 2	25 ⅄	18·43	127
,, (St. Catherine's)	J. H. Teague, Esq.	5	5 0	33 T	20·99	...
D ,, (Doddington)	Rev. R. E. Cole	5	1 2	92 ⅄	18·09	140
,, (Station)	Gt. Central R. Co.‡	9	3 6	26	18·34	126
D ,, (The Close)	C. J. Bromhead, Esq.	8	1 0	185	18·33	167
,, (D'Isney Place)	A.H.Leslie Melville Esq	4	1 0	215 L	19·18	142
D ,, (Brayford Wharf)	Mr. J. W. Horton	5	5 8	28 ⅄	18·55	153
,, (The Quarry)	the late R. Swan, Esq.	8	1 8	165 T	18·71	145
,, (Skellingthorpe Hall)	A. H. B. Coupland, Esq.	5	1 0	...	18·16	128
D Horncastle (Hemingby)	Rev. E. S. Bengough	5	1 0	158	22·48	152
Alford (The Burial Ground)	Mr. E. Hodgson	5	1 0	29 ⅄	19·82	...
D Farforth (Maidenwell House)	Miss H. E. Browne	5	1 0	380 T	25·06	163
Gate Burton	Gt. Central R. Co.	9	3 6	96	18·23	144
D Fillingham Manor	Mrs. G. E. Sandars	5	1 11	110 T	18·12	101
D†Louth (Gospelgate)	T. W. Wallis, Esq.	5	6 0	111 ⅄	25·19	156
† ,, (Westgate)	Dr. F. Fawssett	5	0 9	120 ⅄	24·47	147
D Market Rasen	Mr. W. B. Jevons	5	0 8	84	20·57	123
,, ,,	Gt. Central R. Co.	9	3 6	100	15·76	119
D Yarborough (The Rectory)	Rev. S. Bateman	5	0 9	42 T	21·34	146
Gainsborough	Gt. Central R. Co.	9	...	76	16·73	133
Stockwith	,, ,, ,,	9	3 6	21	17·98	159
D North Thoresby Rectory	Rev. H. Garrett	5	1 0	46 ⅄	23·30	172
Caistor (Cabourne)	Rev. R. Thomas	5	...	...	22·59	...
Brigg	Gt. Central R. Co.	9	3 6	16	19·71	143
D ,,	A. Atkinson, Esq., C.E.	8	1 2	11 ⅄	20·86	130
D Grimsby (Waltham)	Rev. W. Tuckwell	5	1 0	50	21·78	148
,,	Gt. Central R. Co.	9	15 0	42	19·11	128

* Formerly called Miningsby.

‡ Kept for the Canals Department of the Great Central Railway Company. Returns supplied by G. Taylor, Esq.

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height above Ground.	Rain Gauge. Height above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet	inches.	
LINCOLN—(*con.*)						
Barnetby	Gt. Central R. Co.	9	3 6	51	20·37	114
D N.Level Engine [Thorne Donc'st'r]	Mr. Turner	5	2 3	...	17·86	134
Crowle (Keadby)	Gt. Central R. Co.	9	...	17	14·63	104
D Burton on Stather Vicarage	Rev F. A. Jarvis	5	0 6	212 T	20·99	133
D Horkstow	E. J. Turton, Esq.	5	0 10	...	24·25	137
D West Halton	Rev. R. D. Pierpoint	5	1 6	0	21·84	171
Ferriby Sluice	A. Atkinson, Esq., C.E.	5	1 0	18 ⇈	22·83	120
New Holland	Gt. Central R. Co.	9	3 6	18	18·57	139
NOTTS.						
D Kingston Hall [Loughborough]	Mr. W. English	5	0 8	...	19·53	148
,, Fields (Dairy Institute)	Mr. J. Woodin	5	0 10	...	19·07	115
D Plumtree (Normanton-on-Wolds)	T. A. Hill, Esq.	8	1 0	170 T	18·82	159
Cropwell Bishop (Cropwell Grove)	H. Smith, jun., Esq.	5	1 1	160 T	18·29	...
Bramcote	H. H. Enfield, Esq.	5	3 6	292 T	22·51	204
Bingham (Whatton Manor)	M. H. Hall, Esq.	5	3 0	104 T	18·15	139
D Nottingham (Beeston Fields)	G. Fellows, Esq.	5	0 9	206 ⇈	21·31	164
D ,, (The Castle)	A. Brown, Esq., C.E.	8	1 2	192 ⇈	19·75	148
,, (,, ,,)	,, ,. ,,	8	76 0	268 ⇈	16·81	141
D ,, (Carisbrook Ho., The Park)	W. Bradshaw, Esq.	5	1 0	247	20·64	157
,, (Ropewalk ,,)	A. Brown, Esq., C.E.	...	1 3	230	19·80	...
Radcliffe-on-Trent	T. Yates, Esq.	5	1 0	...	18·32	133
,, ,, ,, (Chestnut Ho.)	Mr. J. Green	8	2 0	...	17·66	...
D Nttnghm (Stoke Bardolph Sew Fm)	Mr. A. A. Avis	8	10 0	83	16·00	140
D ,, (Strelley Hall)	T. L. K. Edge, Esq.	8	1 0	396 ⇈	20·73	163
D ,, (,,)	,, ,, ,,	5	1 0	379 ⇈	19·79	160
D ,, (Mapperley Hill)	E. Powell, Esq.	8	1 0	400 T	20·41	135
D ,, (Basford)	A. Brown, Esq., C.E.	8	0 10	169 ⇈	19·77	161
Bulwell (Springfield)	G. W. Walker, Esq.	5	0 9	166 ⇈	20·37	...
D ,, (Bestwood)	A. Brown, Esq., C.E.	8	1 5	317 ⇈	18·89	141
D Eastwood Colliery	Mr. E. Lindley	5	1 0	245 T	21·16	154
D Hucknall Torkard (Forge Mills)	J. D. Walker, Esq.	5	1 0	200 ?	18·25	160
D† Gonalston Rectory	Rev. F. H. Paley	5	1 0	70	18·86	160
D Southwell (Oxton Hall)	Captain Sherbrook	5	0 9	182	18·76	108
D Papplewick (Water Works)	A. Brown, Esq., C.E.	8	0 10	317 ⇈	20·70	148
D ,, Hall	F. A. Smith, Esq.	5	0 7	321 T	22·12	135
Annesley (Selston W.W.)	Messrs G. & F. W. Hodson	5	1 0	475 ⇈	22·24	163
Southwell (Westhorpe Hall)	Genl. Warrand	5	1 0	147	20·29	...
Newark (Averham Rectory)	Rev. J. Walker	5	1 0	150	20·07	...
D† Farnsfield	Dr. Wills	5	1 0	210 T	19·47	145
Sutton-in-Ashfield W.W.	Messrs G. & F. W. Hodson	5	1 0	462 ⇈	21·25	116
Mansfield (W.W. Rainworth)	,, ,, ,,	5	1 0	360 ⇈	21·61	...
South Collingham	E. Turton, Esq.	5	1 0	...	19·78	...
D South Scarle	Rev. E. C. Shawfield	5	1 4	52	17·29	121
D Ollerton (Thoresby Gardens)	Mr. A. Henderson	8	0 9	125	23·28	104
Worksop	Gt. Central R. Co.	9	3 6	127	20·65	148
D ,, (Osberton Gardens)	Mr. Allsop	5	4 0	70	19·98	137

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea level	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	NOTTS—(*con.*)						
	Retford	Gt. Central R. Co.	9	3 6	52	17·00	149
D	,, (Morton Hall)	W. H. Mason, Esq.	5	1 0	140	20·52	145
	,, (Babworth Hall)	Col. Denison	5	0 6	92 ⩛	20·63	...
D	Worksop (Hodsock Priory)	H. Mellish, Esq.	8	1 0	56 ⩛	20·87	159
	,, (,, ,,) M	,, ,,	5	1 0	56 ⩛	20·22	...
	The Gardens [Bawtry Hall]	L. T. Baines, Esq.	5	1 0	31 T	19·24	...
D	Hesley Hall [Tickhill]	B. I. Whitaker, Esq.	8	0 11	61 T	19·20	150
	DERBY.						
	Stanton House [Burton]	J. L. P. Barber, Esq.	5	1 0	210	21·88	170
D	Winshill [Burton]	A. J. Brown, Esq.	5	1 0	261 T	21·87	188
D	Melbourne Vicarage	Rev. Canon Singleton	5	2 0	...	23·39	164
D	,, (The Hollow)	Mr. W. Garratt	5	1 0	182 ⩛	20·14	152
D	Chellaston	H. Chambers, Esq.	5	1 0	...	20·05	178
D	Willington (S. & A. W. W. Milton)	Mr. A. Jones	5	1 0	134 ⩛	20·14	162
	Findern (The Longlands)	Rev. B. W. Spilsbury	5	0 9	186 ⩛	18·59	...
D	Etwall (Blakeley Lodge)	Mr. R. Giles	5	1 0	190 ⩛	17·88	102
	Mickleover (County Asylum)	R. Legge, Esq., M.D.	5	0 9	300 T	18·61	133
D	,, Manor	Mr. J. Campbell	5	2 0	280	19·96	132
	Derby (Wild Street)	Messrs. J. Davis & Son	5	1 0	174	22·32	174
D	,, (Midland Railway)	W. Langdon, Esq.	5	1 5	156 ⩛	20·28	159
D	,, (Royal Infirmary)	W. G. Carnt, Esq.	5	0 9	195	21·00	183
D	,, (Arboretum)	R. Harrison, Esq., C.E.	8	1 0	196 ⩛	20·95	164
D	,, (Duffield Road)	Dr. Copestake	5	8 0	192 ⩛	19·69	155
D	Breadsall Lodge	W. B. Woodforde, Esq	5	1 3	280 T	21·29	183
	Duffield (Castle Hill House)	Messrs. J. Davis & Son	...	...	...	21·00	166
	Hazelwood (Chevin)	Sir J. G. N. Alleyne, Bart.	5	4 0	515 ⩛	21·50	168
D	Belper (Northfield)	J. Hunter, Esq., C.E.	8	0 8	225	26·69	181
D	Codnor (Cross Hill)	A. F. Pine, Esq.	5	0 10	372 ⩛	21·41	147
D	Alderwasley *old g.*	A. F. Hurt, Esq.	5	5 5	541 ⩛	28·46	153
D	,, *new g.*	,, ,, ,,	5	1 0	537 ⩛	29·72	153
†	Matlock Bath	Mrs. Chadwick	5	1 6	500 T	25·94	...
	,, Dale (Tor House)	J. H. Hay, Esq.	5	1 6	600	31·32	...
D†	,, (The Gables)	R. Wildgoose, Esq.	5	1 0	459 T	28·80	165
D†	Darley Hall	A. Clay, Esq.	5	1 8	400 T	29·88	181
D	Stretton (Lindway Res.)	Mr. Peers	5	4 3	447 ⩛	17·32	140
	Hardwick Hall	Mr. Wilson	8	2 6	594 T	24·87	177
D	Grassmoor Colliery	Mr. J. Norman	5	19 10	370 ⩛	15·98	130
D	Chatsworth Gardens	W. Chester, Esq.	8	5 5	442 T	29·78	189
†	Chesterfield (Gas Works)	Chesterfield Corporation	5	1 0	279	21·49	139
	,,	Gt. Central R. Co.	9	3 6	251	20·85	148
†	,, (Linacre Reservoir) *old g.*	Chesterfield Corporation	8	1 0	490	27·06	162
	,, (,, ,,) *new g.*	,, ,,	5	1 0	490	26·09	164
D	,, (Tapton Grove)	Mr. Bloxham	5	3 3	400	20·32	114
	Buxton (Devonshire Hospital)	A. Brown, Esq., C.E.	5	1 0	988	44·35	157
D	Tideswell (Sterndale Ho., Litton)	W. F. Jackson, Esq. C.E.	5	4 0	999 ⩛	36·00	183
†	Comb's Moss	Gt. Central R. Co.	9	3 6	1669 T	35·51	...
†	,, Reservoir	,, ,, ,,	9	3 6	710 T	34·50	209

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
DERBY—(*con.*)						
†Chapel-en-le-Frith	Gt. Central R. Co.	9	3 6	965 T	34·95	217
†Killamarsh (Norwood)	,, ,, ,,	9	3 6	238 T	23·47	157
D Norton [Sheffield]	Col. Creswick	...	0 8	700 T	26·92	176
Ernecroft [Compstall]	G. H. Hill, Esq., C.E.	5	1 6	310 ⊼	32·10	...
D Glossop Hall	Lord Howard of Glossop	8	1 5	533 T	39·19	196
Woodhead Station	Gt. Central R. Co.	9	3 6	878 T	45·76	218

DIVISION VIII.—NORTH WESTERN COUNTIES.

CHESHIRE.						
D Baddiley (Nantwich W. W.)	Baldwin Latham Esq C.E.	5	1 0	231	25·40	155
D Nantwich (Dorfold Hall)	J. A. Saner, Esq., C.E.	8	1 6	190	23·56	149
D ,, (Reaseheath Hall)	,, ,, ,,	8	1 0	130	24·35	180
D Sandbach (Malkins Bank)	Messrs Brunner Mond & Co	5	3 8	244 ⊼	21·69	169
Aldford (Woodhouse)	W. H. Phillips, Esq.	5	1 1	43 ⊼	23·62	156
D Eaton Hall Gardens	Mr. N. F. Barnes	5	3 0	64 ⊼	23·57	172
Eccleston	E. Wells, Esq.	5	1 1	94 ⊼	23·62	167
,, Rectory	Rev. A. G. Robins	5	6 0	83 ⊼	23·46	177
D Congleton (Buglawton Vic.)	Rev. W. Besant	8	5 0	347 T	27·88	163
Bosley Reservoir	Gt. Central R. Co.	9	3 6	590 T	27·68	176
,, Minns	,, ,, ,,	9	3 6	1210 T	30·72	177
Macclesfield (Wincle)	E. B. Smith, Esq., C.E.	5	3 0	500	31·85	167
D Chester (Christleton Hall)	Mr. T. Weaver	5	1 2	142 ⊼	24·40	173
,, (Northgate Station)	Gt. Central R. Co.	9	3 6	84 T	24·49	158
D ,, (Parkgate Road)	Rev. J. C. Mitchell	5	1 0	60 ⊼	24·08	182
D† ,, (The Nurseries)	Messrs. Dicksons	5	1 0	62 ⊼	23·74	146
D ,, (Hoole Lodge)	Mrs. Hamersley	5	1 0	108 ⊼	25·73	198
D Middlewich	Messrs Brunner Mond & Co	5	3 10	138 ⊼	24·30	180
,, (Bostock Hall)	Col. France Hayhurst	5	2 0	157 ⊼	26·22	135
D Macclesfield (The Park)	Mr. J. Dale	5	1 0	501 T	31·96	184
,,	Gt. Central R. Co.	9	3 6	539	33·62	200
D Chelford (Astle Hall)	G. Dixon, Esq.	5	1 0	250 T	28·69	173
,, (,, ,,) M	,, ,, ,,	8	1 0	250 T	28·69	...
Northwich	Gt. Central R. Co.	9	3 6	76 T	21·81	167
D ,, (Highfield)	J. A. Saner. Esq., C.E.	8	3 4	118 ⊼	26·76	199
D ,, (,,) *Snowdon*	,, ,, ,,	8	1 0	115 ⊼	27·11	199
D ,, (Winnington)	Messrs Brunner Mond & Co	5	3 8	80 ⊼	26·09	203
D Macclesfield (Swanscoe Park)	T. C. Horsfall, Esq.	5	1 0	676 ⊼	33·95	204
D*Neston (Hinderton)	Reginald Bushell, Esq.	5	1 0	215 ⊼	24·16	170
* ,, (,,) M	,, ,, ,,	8	1 0	215 ⊼	24·57	...
* ,, (,, Lodge) M	,, ,, ,,	5	1 0	145 ⊼	22·87	...
Bollington (Spond's Hill)	Gt. Central R. Co.	9	3 6	1279 T	30·36	...
D Hooton Grange	W. H. Jones, Esq.	5	1 0	110 ⊼	25·97	159
D Wilmslow (Parksyde)	E. Pearson, Esq.	8	1 0	253 ⊼	28·09	175
,, (Poplar House)	J. Holden, Esq.	5	1 0	237 ⊼	26·65	163
†Whaley	Gt. Central R. Co.	9	3 6	602 T	37·58	198
Disley (Lyme Park) No. 1	T. Molyneux, Esq.	9	3 8	720 ⊼	43·82	173

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
CHESHIRE—(*con.*)						
D Disley (Lyme Park).....No. 2	T. Molyneux, Esq. ...	12	2 9	674 ⅄	31·06	173
D Runcorn (Weston Point)	J. A. Saner, Esq., C.E.	8	2 4	18	27·75	146
Thurstaston (Dawpool).....	T. H. Ismay, Esq.	...	...	...	21·90	...
D West Kirby (Caldy Manor)	Mr. W. Neish.....	5	1 0	129 L	25·52	147
D ,, ,, (Greenfield)	H. Bell, Esq.....	5	1 0	75 T	23·39	182
Bowdon (The Firs).....	R.Swindells, Esq., C.E.	5	1 0	215 ⅄	28·21	...
D ,, (Erlesdene)	E. J. Sidebotham, Esq.	5	1 0	211 ⅄	23·25	177
,, (,,) .....M	,, ,, ,,	5	1 0	211 ⅄	27·91	...
D Thelwall (Highfields)	T. G. Rylands, Esq. ...	5	1 0	118 ⅄	24·96	177
,, (,,) .....M	,, ,, ,, ..	5	1 0	118 ⅄	25·04	...
D ,, (Millington House)	L. W. Reynolds, Esq..	5	1 0	85 ⅄	26·69	175
Altrincham (Norman's Place).....	A. Griffiths, Esq.	5	7 0	150 T	31·27	158
,, (Barrington House).	C. E. Newton,Esq ,C.E.	8	3 0	105	28·82	...
D Cheadle (Harthill).....	R. A. Grundy, Esq. ...	5	1 0	142 T	27·67	174
D Hoylake (District Council Office)	J. F. Leigh Clare, Esq.	5	1 0	33 ⅄	23·99	189
†Birkenhead (Bidston Obs.)	W. E. Plummer, Esq..	8	1 0	189 ⅄	25·72	183
D Northenden (Wythenshawe).....	T. E. Tatton, Esq. ...	5	1 0	114 T	28·12	193
Marple Top Lock	Gt. Central R. Co.	9	3 6	543 T	30·63	175
,, Aqueduct	,, ,, ,, ...	9	3 6	321 T	31·01	195
D New Brighton (Rutland House)..	W. Bell, Esq.....	5	1 0	130 B	25·27	167
Godley Reservoir	G. H. Hill, Esq., C.E..	12	2 0	500	29·57	...
Newton	Gt. Central R. Co.....	9	3 6	396 T	29·77	180
Mottram Station.....	,, ,, ,, ...	9	3 6	452 T	29·57	174
,, (Hill End)	,, ,, ,, ...	9	3 6	680 T	34·87	187
D Broadbottom (Harewood Lodge).	Col. Sidebottom, M.P..	5	1 0	440	34·91	191
D Hadfield (Millbrook).....	Mr. S. H. Doxon	8	3 10	442 T	38·09	205
,, (,,).....	,, ,, ,, ...	12	4 0	442 T	38·52	205
Arnfield Reservoir.....	G. H. Hill, Esq., C.E..	12	2 6	550	40·24	...
†Rhodes Wood Reservoir	,, ,, ,, ...	12	1 0	520	42·28	...
†Torrside Reservoir.....	,, ,, ,, ...	12	1 6	680	42·34	...
Staleybridge (Swineshaw).....	,, ,, ,, ...	8	3 0	884 ⅄	49·18	...
†Woodhead Reservoir.....	,, ,, ,, ...	12	0 10	660	45·41	...
LANCASHIRE.						
D Garston (Grassendale Park).....	Miss E. C. Abraham ...	5	1 0	35 T	25·38	184
D Aigburth (Kelton).....	J. Sing, Esq.	5	1 0	150 T	24·96	183
D ,, (Holmfield)	Miss Maxwell.....	5	1 0	100 T	25·24	182
D Gateacre (The Nook).....	P. C. Hall, Esq.....	5	1 0	90 T	25·14	175
D Warrington (Howley)	T. Longdin, Esq.	10	0 10	19 ⅄	26·35	190
,, (Central Station) ...	Gt. Central R. Co.....	9	3 6	59 ⅄	24·03	149
D ,, (Training College) ...	Miss F. G. Timewell ...	8	0 9	34 T	24·88	168
,, (Fever Hospital) ...	J. H. Gornall, Esq., M.D.	5	1 0	...	26·04	168
Liverpool (St. John's Gardens)..	J. A. Brodie, Esq., C.E.	9	2 3	48 ⅄	22·79	167
,, (,, ,,) ..	,, ,, ,, ...	5	0 9	47 ⅄	23·09	152
,, (Smithdown Road) ...	,, ,, ,, ...	5	2 0	135 ⅄	25·01	167
,, (Huyton Vicarage) ...	Mrs. E. M. Sanderson..	5	0 11	116 ⅄	27·70	191
,, (Breeze Lane)	J. A. Brodie, Esq.....	5	0 9	135 ⅄	27·19	167

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft in.	feet.	inches.	
LANCASHIRE—(*con.*)						
Liverpool (Grove Park)	J. R. Darsie, Esq.	10	6 0	160	24·90	...
,, (Huskisson Station)	Gt. Central R. Co.	9	3 6	40 ⩛	25·50	170
D Heaton Mersey [Stockport]	W. B. Leigh, Esq.	5	3 11	218 ⩛	27·02	190
D Heaton Moor [Stockport] *new g.*	Dr. F. W. Jordan	5	1 0	235	28·41	197
D Manchester (Withington) No. 2	J. King, jun., Esq.	5	1 3	110 T	29·37	189
D ,, (,,) No. 3	,, ,, ,,	8	1 6	110 T	29·11	189
D ,, (Stretford)	H. Royle, Esq., C.E.	5	1 0	86 ⩛	29·05	180
,, (Urmston Sewage Works)	Mr. Ogden	8	2 6	72 ⩛	26·01	192
D ,, (Lady Barn, Fallowfield)	Miss C. Herford	5	1 0	122 T	27·32	209
D St. Helens (Eccleston Hill)	J. J. Lackland, Esq., C.E.	12	2 9	268	28·99	164
,, ,, (Victoria Park)	F. Drew Harris, Esq.	8	1 0	152	26·81	168
Denton Reservoir	G. H. Hill, Esq., C.E.	12	2 0	324 T	28·72	...
Gorton	,, ,, ,,	12	2 0	263 T	28·06	...
D Manchester (Plymouth Grove)	J. F. Roberts, Esq.	5	4 2	150 ⩛	29·37	185
† ,, (Piccadilly)	Gt. Central R. Co.	9	40 0	194 T	26·43	160
,, (Fairfield)	,, ,, ,,	9	6 0	312 T	30·95	200
D ,, (Oldham Road)	Dr. Niven	5	1 0	191 ⩛	29·82	197
D ,, (Alexandra Park)	J. Casartelli, Esq.	8	3 0	120 T	28·50	190
,, (Whitworth Park)	Prof. Schuster, F.R.S.	8	1 6	126	29·31	...
D Eccles (Worsley Old Hall)	W. Bourke, Esq., C.E.	5	1 0	185 ⩛	29·77	177
Blundellsands (Park Corner)	T. M. Reade, Esq. C.E.	5	1 0	36 ⩛	25·19	...
D Manchester (Newton Heath)	J. Warren, Esq.	5	1 0	275 ⩛	33·39	195
D ,, (Cheetham Hill)	W B Worthington Esq CE	5	1 0	264 ⩛	31·67	201
Ashton (Waterhouses)	Gt. Central R. Co.	9	3 6	345 T	33·95	194
Prestwich Asylum	The Meteor. Council	8	1 0	295	33·17	204
,, Reservoir	G. H. Hill, Esq., C.E.	12	2 0	356 T	28·31	...
†Oldham (Gas Works)	C. J. Batley, Esq., C.E.	5	4 0	600 T	36·28	...
,, (Honeywell Lane)	Gt. Central R. Co.	8	...	553	36·61	219
,, (Brushes Clough) *old g.*	G. H. Hill, Esq., C.E.	5	4 0	930 T	42·57	...
,, (,, ,,) *new g.*	,, ,, ,,	5	5 0	955 T	41·68	...
Ormskirk (Aughton Springs)	C. E. Maples, Esq.	5	0 6	150	28·54	...
D Wigan Waterworks	W. Bolton, Esq.	8	1 6	225 T	31·25	201
D Dalton (Ashurst Beacon)	J. Baxendell, Esq.	8	1 0	538 T	32·19	159
D Bolton (The Park)	W. W. Midgley, Esq.	5	1 0	390 T	39·23	231
,, (Heaton) *new g.*	R H Swindlehurst Esq CE	5	1 0	500	40·46	238
D ,, (Ash Lawn, Heaton)	F. Taylor, Esq.	5	1 0	406	41·25	223
D ,, (Moss Bank)	Col. R. H. Ainsworth	8	1 6	530 ⩛	46·91	213
D ,, (Smithills Hall)	,, ,,	8	1 2	535 T	42·69	175
†Milnrow (Piethorne, Kitcliffe)	G. H. Hill, Esq., C.E.	5	4 6	767	38·32	...
D ,, (,, Coldgreave)	C. J. Batley, Esq., C.E.	5	4 2	894 T	43·70	191
†Rochdale (Deeplish Hill)	J. H. Lancashire, Esq.	5	1 0	475 T	36·68	210
D† ,, (Park Observatory)	Dr. Henry	8	0 6	472	41·56	221
D† ,, (Fieldhead)	S. S. Platt, Esq., C.E.	8	12 0	484 ⩛	40·01	207
†Bury (Gin Hall) *old g.*	R. B. Rigby, Esq.	8	1 0	475	42·21	178
† ,, (,, ,,) *No. 2*	,, ,, ,,	8	1 0	475	42·88	178
D Ormskirk (Rufford)	T. Hobkirk, Esq.	5	0 8	39 ⩛	31·84	164
Bolton (Belmont) *old g.*	R H Swindlehurst Esq CE	6	0 9	800	55·10	225

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
LANCASHIRE—(*con.*)						
Bolton (Belmont) ..... *new g.*	RH Swindlehurst Esq CE	5	1 0	800	53·45	225
D Southport (Birkdale).....	J. Baxendell, Esq.....	5	1 0	29 T	28·78	178
†Rochdale (Nayden Dean) *old g.*...	J. Diggle, Esq., C.E....	5	1 7	948 ⅄	33·80	...
† ,, (,, ,,) *newg.*...	,, ,, ,, ...	5	1 3	948 ⅄	40·94	...
D† ,, (Spring Mill Whitworth)	W. Tomlinson, Esq. ...	8	1 7	720	46·00	197
D† ,, (Cowm, ,,)	,, ,, ,, ...	8	1 7	760	48·55	193
D† ,, (Facit).....	T. S. Smithson, Esq....	5	0 6	855 T	49·09	217
Southport (Hesketh Park).....M	J. Baxendell, Esq. ...	5	1 0	38	28·79	...
D ,, (,, ,,) *M.O.g.*	,, ,, ,, ...	8	1 0	38	28·73	172
,, (Lord Street Station).	Gt. Central R. Co.	9	3 6	21 ⅄	26·51	169
D ,, (Park Crescent)	J. Watkins, Esq.	5	1 0	30 T	30·72	188
Entwistle .... *old g.*	RH Swindlehurst Esq CE	7	1 0	700	47·40	203
,, ...*new g.*	,, ,, ,,	5	1 0	700	48·26	203
Blackstone Edge (Hollingworth)	Rochdale Canal Compy‡	10	1 5	650	36·40	...
† ,, ,, (Windy Bank)	,, ,, ,, ...	10	1 6	600	35·20	...
† ,, ,, ...	,, ,, ,, ...	10	1 9	1225	39·10	...
† ,, ,, (Canal Summit)	,, ,, ,, ...	10	1 10	700	33·40	...
† ,, ,, (Chelbourn) ...	,, ,, ,, ...	10	1 3	800	38·60	...
,, ,, (Lenches)	,, ,, ,, ...	10	1 10	800	45·50	...
† ,, ,, (Calf Lee).....	,, ,, ,, ...	10	1 6	960	35·60	...
Chorley (Crooke Hall)	Carlton Cross, Esq. ...	5	2 6	265 T	37·14	171
D† Todmorden W W. (Ramsden Moor)	J. Radcliffe, Esq.	5	1 0	1326 ⅄	52·22	239
D† ,, ,, (,, Res.)	,, ,, ,, ...	8	1 0	980 ⅄	51·78	241
Haslingden (Holden Wood)	R. B. Rigby, Esq.....	8	1 0	670	50·80	193
,, (Calf Hey).....	,, ,, ,, ...	8	1 0	800	48·76	194
D ,, ...	Dr. Harrison	5	1 9	800 T	47·55	178
D ,, Vicarage.....	Rev. A. Spencer.....	8	1 6	800 T	44·42	213
,, (Mitchells House) ...	C. Harrison, Esq.	5	1 6	990	39·68	168
D Over Darwen (Sunnyhurst Hey.)	R. W. S. Saville, Esq..	8	1 8	915 T	34·60	196
D ,, ,, (Earnsdale Res.)..	,, ,, ,,	8	1 8	705 T	36·94	196
D ,, ,, (St. James's Vic.) .	Rev. W. H. Blamire...	5	1 0	564 ⅄	44·11	196
,, ,, (Hoddlesden) No.1	W. Stubbs, Esq., C.E..	8	4 0	680	54·27	184
,, ,, (,,) No.2	,, ,, ,, ...	8	1 0	675	53·08	186
,, ,, (Daisy Green) No.1	,, ,, ,, ...	8	1 0	969	41·00	188
,, ,, (,, ,,) No.2	,, ,, ,, ...	8	1 0	969	40·93	186
,, ,, (Pickup Bank) No.1	,, ,, ,, ...	8	1 0	720	43·13	189
,, ,, (,, ,,) No.2	,, ,, ,, ...	8	1 0	720	42·83	186
D Rawtenstall Cemetery	A. W. Lawson, Esq., C.E.	8	1 0	572	47·57	206
D Todmorden (Scaitcliffe).....	W. Ormerod, Esq.	8	1 0	468 T	46·80	200
Blackburn (Guide Reservoir) ...	W. Stubbs, Esq., C.E..	8	1 0	650	38·04	190
,, (Witton)	,, ,, ,,	8	2 6	315 ⅄	39·97	194
,, (Store Yard)	,, ,, ,,	8	30 0	373 ⅄	29·79	138
,, (Pumping Station)...	,, ,, ,,	8	6 0	600 ⅄	35·16	135
,, (Samlesbury)..... M	,, ,, ,,	8	...	240	31·24	185
†Rawtenstall (Cloughbottom Res.)	R. B. Rigby, Esq.....	8	1 0	1025	44·87	199
† ,, (Clough Bridge Res.)	,, ,, ,, ...	8	1 0	900 ⅄	40·60	225
D Preston (Corporation Offices) ...	T. Cookson, Esq.	8	18 0	148	29·62	127

‡ Returns supplied by C. R. Dykes, Esq.

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	LANCASHIRE—(*con.*)						
Burnley Waterworks	†Causeway Side	W. Williamson, Esq.	8	2 0	1116	35·72	...
	†Sheddin	,, ,, ,,	8	2 0	960	36·52	...
	†Cant Clough, S. Side	,, ,, ,,	8	2 0	900	36·41	211
	† ,, ,, N. Side	,, ,, ,,	8	2 0	900	33·48	211
	†Rams Clough Head	,, ,, ,,	8	2 0	1260	40·66	...
	Rishton Reservoir	Leeds & L'pool Canal Co.	...	...	467	33·53	...
D	Huncoat (Burnley Road Res.)	C. Harrison, Esq.	9	1 6	620 ⊼	39·13	189
	†Burnley (Yorkshire Street)	W. Williamson, Esq.	8	30 0	420 ⊼	38·04	194
	† ,, (Swinden, Upper)	,, ,, ,,	8	12 0	820 ⊼	40·98	222
	† ,, (,, Lower)	,, ,, ,,	8	2 0	745 ⊼	41·32	222
	† ,, (Extwistle Moor)	,, ,, ,,	8	2 0	1310 T	43·71	...
D	,, (Gawthorpe Hall)	A. Ford, Esq.	8	1 3	316 T	38·95	180
D	Preston (Haighton)	J. J. Myres, Esq., C.E.	5	1 2	255 ⊼	34·39	192
	Alston	T. Cookson, Esq.	8	1 2	320 ⊼	40·77	...
	Kirkham (Weeton)	C. Arthur, Esq.	10	1 0	95 T	33·79	...
	Barton (Anderton Fold)	W. H. Mason, Esq.	5	0 6	90 T	36·46	...
D	Blackpool Hospital	Dr. Anderson	5	1 0	59 ⊼	32·83	199
	Nelson (Coldwell Reservoir)	C. E. Newton, Esq., C.E.	8	2 0	950	28·54	...
	Worthdale (Watersheddles)	W H Hopkinson, Esq. C E	5	1 0	1115 T	44·59	...
D	Eccleston (Elswick Lodge) *old g.*	S. King, Esq.	5	1 4	52 T	30·82	188
	,, (,, ,,) Field	,, ,, ,,	5	1 0	52 T	34·29	...
	,, (,, ,,) ,,	,, ,, ,,	5	6 0	56 T	32·70	...
	Stonyhurst College	Rev. W. Sidgreaves	11	1 0	376 ⊼	48·11	211
D	,, ,,	,, ,, ,,	11	2 0	377 ⊼	47·84	211
	,, ,, M	,, ,, ,,	11	1 0	376 ⊼	47·20	...
Preston W. Works.	Knowle Green M	T. Cookson, Esq.	8	1 2	400 T	37·75	...
	Loud-scales M	,, ,, ,,	8	1 2	400 T	39·09	...
	Spade Mill M	,, ,, ,,	8	1 2	400 T	43·62	...
	Jeffrey Hill M	,, ,, ,,	8	1 2	900 T	46·60	...
D	St. Michael's-on-Wyre Vic. No. 3	Rev. P. J. Hornby	5	1 0	26 ⊼	32·56	191
D	Beaton Fell (Barnsfold Res.)	J. J. Myres, Esq., C.E.	5	1 6	506 ⊼	33·98	186
	,, ,, (,, ,,) M	,, ,, ,,	5	1 6	506 ⊼	33·90	...
	Barrowford Reservoir	Leeds & L'pool Canal Co.	8	1 0	473	46·35	...
	Foulridge (Canal Office)	,, ,, ,,	8	1 0	497	45·48	...
	,, (Cragg Nook Hill)	,, ,, ,,	8	1 0	690	41·14	...
	,, (Upper Reservoir)	,, ,, ,,	8	1 0	582	42·41	...
D	Garstang (Bruna Hill)	Sydney Wilson	5	0 6	71 ⊼	34·78	184
	Clitheroe (Downham Hall)	R. Assheton, Esq.	10	1 6	464 ⊼	39·77	...
D	Chatburn (Middlewood)	W. K. Wilkinson, Esq.	5	1 3	363 T	42·77	146
	Garstang (Fairsnape Clough) M	Messrs. A. & S. Wilson	5	1 0	930 T	65·28	...
	,, (Barnacre Reservoir)	C. Arthur, Esq.	10	1 0	617 ⊼	43·77	...
	,, (Grizedale Reservoir)	,, ,, ,,	10	1 0	519 T	43·76	...
	,, (,, Stake House)	,, ,, ,,	10	1 0	775	52·91	...
	Pilling M	Messrs. A. & S. Wilson	5	0 9	12 T	36·54	...
D	Garstang (Forton)	W. G. Welch, Esq.	5	2 0	130 T	35·89	202
	Wyresdale (Abbeystead)	J. Cook, Esq., C.E.	8	1 0	366 T	39·01	155
	Quernmore (Old Gauge Basin) M	,, ,, ,,	8	1 0	963 T	47·59	...
	Wyresdale (Wardstone) M	,, ,, ,,	8	1 0	1440 T	70·61	...

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
LANCASHIRE—(*con.*)						
Quernmore (Brow Top)	J. Cook, Esq., C.E.	8	1 0	552 T	38·99	181
D Heysham House	Miss Tomlinson	5	1 6	80	40·81	156
D ,, Hall	Mrs. Grafton	5	1 0	96	36·63	197
Lancaster (Marton Street Yard)	J. Cook, Esq., C.E.	8	1 9	70 ⅄	35·72	199
D ,, (Greg Observatory)	Dr. Schloesser	8	1 0	312	39·02	195
,, (Escowbeck, Caton)	A. Greg, Esq.	10	3 0	150 T	40·25	195
,, (Caton)	Rev. W. J. Locke	5	1 0	160	44·34	...
Morecambe	Mr. T. B. Lamb	8	1 0	24 T	32·45	179
D Wray Vicarage	Rev. C. L. Reynolds	5	1 0	165 T	45·63	205
Melling (Hornby Castle)	Col. Foster, M.P.	8	1 8	100	42·19	143
Barrow-in-Furness	W. Fergusson, Esq.	11	1 6	36 ⅄	37·72	195
Arkholme (Storrs Hall)	F. F. Pearson, Esq.	5	1 0	220	46·59	...
D Carnforth (Yealand Conyers)	W. O. Roper, Esq.	5	1 0	250	40·88	183
D Silverdale	Mr. T. R. Taylor	8	1 0	120	45·11	184
D Ulverston (Urswick)	Rev. R. B. Billinge	5	1 0	131	48·03	223
D Lindal (Berkune Mines)	F. A. Ainslie, Esq.	5	8 0	215 T	44·18	211
†Cartmel (Holker)	Mr. W. Fox	8	4 8	155 ⅄	45·29	191
D Grange-over-Sands (Belmont)	Dr. W. M. Burman	5	1 0	180 T	46·77	208
,, ,, ,, (Eggerslack)	*Anonymous*	5	2 6	140	49·47	226
D†Ulverston (Poaka Beck)	W. Fergusson, Esq.	11	1 6	512 ⅄	52·67	250
Cartmel (Pit Farm)	Mr. W. R. Nash	5	1 0	122 T	48·39	212
,, (Broughton Hall)	Col. Ainsworth	5	2 8	225	50·73	209
Colton	Rev. A. Christopherson	5	1 0	226 ⅄	58·24	212
,, ...M	,, ,, ,,	8	1 0	226 ⅄	58·31	...
D Finsthwaite Vicarage	Rev. S. Inman	8	1 2	250	59·86	209
D Broughton-in-Furness	C. Chambers, Esq.	5	1 3	100	58·31	220
D Blawith	Rev. J. Ashburner	5	0 10	185 T	63·18	200
D Cartmel Fell Vicarage	Rev. W. Summers	5	0 8	220 T	62·85	220
D Hawkshead (Esthwaite Lodge)	Major Alcock-Beck	5	3 6	232 T	72·41	239
,, (,, Strickland Ease)	,, ,, ,,	5	3 6	254 T	66·39	...
D†Duddon Valley (Seathwaite Vic.)	Rev. S. R. M. Walker.	5	1 0	330 T	86·48	252
D†Monk Coniston Park	Mr. Wray	5	1 2	305 T	109·15	219
Hawkshead (Black Fell) .....M	S. A. Marshall, Esq.	5	1 6	1055 T	76·30	...
D Skelwith Fold [Ambleside]	,, ,, ,,	5	1 0	333	93·06	250
,, ,, [,,] ...M	,, ,, ,,	5	1 0	333	90·10	...

DIVISION IX.—YORKSHIRE.

WEST RIDING.						
†Sheffield (Brincliffe Edge)	Gt. Central R. Co.	9	3 6	336 T	27·14	151
† ,, (Redmires Res.)	L.S.M.Marsh,Esq.,C.E.	10	5 0	1110 ⅄	40·08	191
,, (,, ,,) *weekly*	,, ,,	8	4 0	1110 ⅄	39·69	...
D ,, (Tylecote, Ranmoor)	J. Dixon, Esq.	5	1 0	610 ⅄	30·08	185
,, (Rivelin)	L.S.M.Marsh,Esq.,C.E.	10	4 0	564 ⅄	32·24	169
,, (,,) *weekly*	,, ,, ,,	8	4 0	564 ⅄	32·24	...
† ,, (Crookes)	,, ,, ,,	10	2 0	629 ⅄	26·67	164
† ,, (,,) *weekly*	,, ,, ,,	8	2 0	629 ⅄	26·88	...

DIVISION IX.—YORKSHIRE—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
WEST RIDING—(*con.*)							
D Sheffield (Weston Park)	E. Howarth, Esq.	8	1	0	430 ⅄	27·13	163
† ,, (Victoria Station)	Gt. Central R. Co.	9	3	6	188 T	21·47	147
D Rotherham (Ulley Res.)	G. W. Jennings, Esq.	5	1	0	184	20·56	119
Sheffield (Tinsley Locks)	Gt. Central R. Co.	9		...	117 T	22·13	154
D Tickhill (Sandbeck Park)	Mr. G. Summers	8	1	0	150 T	21·91	146
†Rotherham (Moorgate Grange)	C. E. Chrimes, Esq.	5	1	0	262 ⅄	22·58	129
,, (Thrybergh)	W.H.R.CrabtreeEsqCE	8	1	0	184 ⅄	20·71	165
D Tickhill	G. G. Phillips, Esq.	8	1	0	61 ⅄	21·82	156
D Sheffield (Chapeltown)	Mr. D. Bell	8	5	0	582 L	23·48	154
Doncaster (Firsby)	W.H.R.CrabtreeEsqCE	8	1	3	189 ⅄	23·87	157
D ,, (Wadworth Hall)	Rev. J. C. Ross	8	1	0	190 ⅄	22·89	158
D Bolsterstone (Waldershaigh)	C. M. Wilson, Esq.	8	3	1	950 T	30·05	198
D Wentworth Woodhouse	Mr. J. Hughes	5	0	10	360 T	24·38	163
Wortley	Gt. Central R. Co.	9	3	6	548 T	24·28	149
Elsecar	,, ,, ,,	9	3	6	181 T	18·80	106
†Langsett Moor (Pike Lowe)	J. H. Taylor, Esq., C.E.	5	1	0	1358 T	48·96	...
† ,, ,, (Ewden Height)	,, ,, ,,	5	1	0	1099 T	44·75	...
† ,, ,, (Range Moor)	,, ,, ,,	5	1	0	1040 T	46·70	...
D† ,, ,, (Upper Midhope)	,, ,, ,,	5	1	0	912 T	41·44	205
Langsett	W. Watts, Esq., C.E.	8	4	3	960 ⅄	34·08	199
,,	,, ,, ,,	8	4	9	802 ⅄	35·08	200
D Hoyland (King Street)	J. W. Wilson, Esq.	5	1	0	330	22·23	129
D Wath-upon-Dearne (Chapel St.)	Dr. Burman	8	1	0	185 ⅄	20·98	148
Worsborough	Gt. Central R. Co.	9	3	6	225 T	20·08	131
D Stainborough (Wentworth Castle)	W. Fisher, Esq.	8	2	6	520 T	22·38	137
Doncaster	Gt. Central R. Co.	9	3	6	32 T	17·90	145
,, (Pumping Station)	WHR Crabtree, Esq CE	8	1	2	30 ⅄	21·13	131
D ,, (Magdalens)	Mr. C. Parkin	5	4	9	46 T	20·52	136
Dunford Brdg. (Up. Windleden) M	H. Dearden, Esq., C.E.	12	2	2	1100	48·82	...
† ,, ,, (Dearden Res.) M	,, ,, ,,	12	1	6	1244 T	50·61	...
† ,, ,, Station	Gt. Central R. Co.	9	3	6	954 T	48·14	176
D† ,, ,, Reservoir	H. Dearden, Esq., C.E.	12	2	0	1111 T	48·96	207
Greenfield (Chew Mount)	G. H. Hill, Esq., C.E.	7	0	7	...	53·60	...
,, (Yeoman Hey)	,, ,, ,,	7	0	7	759	49·10	...
†Penistone (Carlcotes)	Gt. Central R. Co.	9	4	0	1075 T	44·58	201
† ,,	,, ,, ,,	9	3	6	717 T	31·13	176
† ,, (Hazlehead)	,, ,, ,,	9	3	9	868 T	43·41	187
† ,, (Ingbirchworth Res.)	J. H. Taylor, Esq. C.E.	8	1	3	853 ⅄	33·64	208
D Holmbridge (Yateholme)	O. J. Kirby, Esq., C.E.	7	1	0	861 ⅄	58·90	177
† ,, (Holme Styes)	G. H. Hill, Esq., C.E.	7	2	0	830 T	47·30	...
† ,, (Boshaw Whams)	,, ,, ,,	7	2	6	930 T	52·10	...
† ,, (Bilberry Reservoir)	,, ,, ,,	7	2	6	820 T	61·90	...
D Barnsley (Church Street)	Dr. Sadler	5	5	2	355 ⅄	21·81	167
,, (Beckett Square)	J. H. Taylor, Esq., C.E.	8	1	0	306 ⅄	22·37	144
,,	Gt. Central R. Co.	9	3	6	317 T	17·97	109
†Saddleworth Station M	L. K. Jones, Esq.	5	4	2	630 T	38·55	...
Barnsley (Cawthorne)	Rev. C. T. Pratt	5	1	6	340 ⅄	24·93	145
Strinesdale [Oldham]	C. J. Batley, Esq., C.E.	5	4	0	815	32·00	187

DIVISION IX.—YORKSHIRE—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	Height Above Ground. in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
	WEST RIDING—(*con.*)							
	†Meltham (Harden Moss)	J. W. Schofield, Esq.	8	1	2	1212 T	49·68	...
	,, (,, ,,) *new g.*	,, ,, ,,	8	1	0	1212 T	50·02	...
	Wessenden Head	,, ,, ,,	8	1	0	1270 T	39·06	...
	,, (Hollin Bank Moss)	,, ,, ,,	8	1	0	1360 T	29·56	...
	,, (Great Butterley)	,, ,, ,,	8	1	0	1110 T	36·85	...
	,, (Bobus)	,, ,, ,,	8	1	0	1200 T	40·07	...
	Standedge (Castleshaw)	C. J. Batley, Esq., C.E.	8	4	6	876 R	39·07	197
	,, (Redbrook Res.) *old g.*	L. K. Jones, Esq.	8	1	8	1150	39·39	...
	,, (,, ,,) *new g.*	,, ,, ,,	8	1	6	1150	38·87	...
	†Meltham (Brow Grains)	J. W. Schofield, Esq.	8	1	0	900 T	43·79	...
	Denshaw (Ox Hey)	G. H. Hill, Esq., C.E.	5	4	6	1030	40·64	...
	,, (New Year's Bridge)	C. J. Batley, Esq., C.E.	5	4	0	1012 R	40·99	194
	,, (Ready Con Dean)	G. H. Hill, Esq., C.E.	5	4	6	1414	36·56	...
	Meltham (Royd Edge)	C. L. Brook, Esq.	8	1	0	585 T	48·97	...
D	,, (HarewoodLodge) *new g*	,, ,, ,,	8	1	0	514 L	44·40	208
†	,, Grange	J. W. Schofield, Esq.	8	1	2	850 T	41·14	...
	†Marsden (Deer Hill) ..... *old g.*	,, ,, ,,	8	1	0	1149 T	42·09	...
	,, (,,) ..... *new g.*	,, ,, ,,	8	1	0	1149 T	44·79	...
D	Doncaster (Kirk Bramwith)	H.A.Brundell,Esq.C.E.	5	1	0	17 R	19·82	165
D†	Slaithwaite (Blackmoorfoot)	J. W. Schofield, Esq.	8	1	0	800 T	42·49	216
	Honley (Northgate House)	W. Brooke, Esq.	5	1	0	350 T	33·65	...
D	Hemsworth Hall	F. G. Leatham, Esq.	5	2	6	250 T	20·40	164
D	Wakefield (Walton)	E. Simpson, Esq.	5	1	0	140 T	17·74	136
	Huddersfield (BankField,Golcar)	J. E. Ramsden, Esq.	5	1	0	400 T	40·69	195
D	,, (Cemetery)	Mr. J. Firth	8	4	0	400	30·79	191
D†	,, (Dalton)	J. W. Robson, Esq.	12	1	0	350 R	39·39	186
	Longwood (Bilberry Edge)	J. W. Schofield, Esq.	8	1	0	1090 T	38·49	...
D	Ackworth (Nostell Priory)	Mr. J. Easter	5	4	0	...	21·45	153
D	Mirfield (Cote Wall)	F M T JonesBalme,Esq.	8	0	9	200	25·35	159
D	Ossett (Lowood House)	Dr. G. S. Greenwood	5	1	0	300 T	22·74	124
D†	Wakefield Prison	Mr. A. Clyde	5	1	0	96 R	21·51	129
D	,, (Field Head)	C. C. Smith, Esq.	8	1	6	250 T	19·44	127
D	,, (Stanley Grange)	late F.E.Haworth, Esq.	5	1	0	235 T	19·79	148
D	Goole (Swinfleet)	Mr. G. Harrison	5	5	6	...	23·46	126
D	,,	W. E. Grayburn, Esq.	5	1	0	18 T	19·65	137
	Rastrick	Messrs. J.T.Clay & Sons	5	20	0	380	25·20	131
	Batley (Staincliffe Reservoir)	O. J. Kirby, Esq., C.E.	7	1	0	492 R	20·50	...
D	,, (Woodwell Depôt)	,, ,, ,,	8	1	0	301 R	21·44	143
D	Sowerby Bridge (Haugh End)	J. S. Rawson, Esq.	5	0	8	450 T	39·82	204
D	Todmorden (Fielden Hospital)	Mr. F. Rogers	5	1	0	650	41·20	206
D	,, (Sourhall Hospital)	,, ,,	5	1	0	1020	46·83	211
	Halifax (Bents, Norland) M	J. S. Rawson, Esq.	5	0	8	800 T	34·59	...
D	,, (BermersideObservatory)	J. Gledhill, Esq.	8	0	6	500	29·01	196
D	,, (Hall Ings, S. Owram)	Rev. G. E. Aspinall	5	0	7	750 T	28·74	186
	,, (Thorpe) ..... M	J. S. Rawson, Esq.	8	0	8	345 T	41·31	...
	,, (,,)	,, ,,	5	0	8	345 T	41·78	199
D	,, (Public Library)	J. Whiteley, Esq.	8	1	0	625 T	29·85	182
†	,, (Albert)	J. A. Paskin, Esq., C.E.	5	1	0	795 T	29·74	...

DIVISION IX.—YORKSHIRE.—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
WEST RIDING—(*con.*)						
†Halifax (Gibbet)	J. A. Paskin, Esq., C.E.	5	6 0	568 T	30·13	...
† ,, (Ramsden Wood)	,, ,, ,, ...	8	1 2	816 T	34·00	...
D Methley Park	J. Richardson, Esq. ...	5	0 9	98 ⅄	19·93	128
D Mytholmroyd (Ewood Hall)	Mrs. Riley ...	8	4 5	500 T	36·89	200
Hebden Bridge (Falling Royd)	A. R. Crossley, Esq.	4	1 0	479 ⅄	42·68	200
Halifax (Castle Carr)	J. A. Paskin, Esq., C.E.	...	...	1060 T	40·40	...
† ,, (Midgley Moor) ... M	,, ,, ,, ...	7	0 6	1350 T	47·69	...
† ,, (Warley Moor) ... M	,, ,, ,, ...	7	0 6	1425 T	42·77	...
† ,, (Ogden) ... M	,, ,, ,, ...	8	1 3	990 T	43·03	...
,, (Ovenden Moor)	,, ,, ,, ...	...	...	1375	48·28	...
,, (Widdop)	,, ,, ,, ...	...	...	1050	47·71	...
† ,, (Walshaw Dean) ... M	,, ,, ,, ...	8	0 3	1380 T	43·16	...
D South Milford Rectory ...	Rev. F. J. Young ...	5	1 2	70 ⅄	21·73	167
D Pudsey	Dr. W. Lovell Hunter.	5	1 0	521 T	23·82	170
Bradford (Queensbury)	R. J. Foster, Esq.	8	2 2	1050	35·46	139
,, (Bowling Dyeworks)	H. Ripley, Esq.	8	1 0	490 T	25·60	175
,, (Brayshaw Reservoir)	J. Watson, Esq., C.E.	5	1 0	982 ⅄	35·98	202
D ,, (The Exchange)	H. A. Johnson, Esq., C.E.	8	65 6	395 ⅄	25·23	182
D ,, (Allerton Road)	J. Clayton, Esq.	5	1 0	522 T	32·01	194
,, (Thornton Moor)	J. Watson, Esq., C.E.	5	1 0	1218 ⅄	43·30	254
,, (Stubden) ...*old g.*	,, ,, ,, ...	8	1 0	1075 ⅄	49·76	236
,, (,,) ...*new g.*	,, ,, ,, ...	5	1 0	1071 ⅄	39·79	236
,, (Nan Scar, Oxenhope) M	,, ,, ,, ...	5	1 0	1101 ⅄	52·41	...
,, (Stairs Top) ... M	,, ,, ,, ...	5	1 0	1401 ⅄	49·96	...
,, (Leeming Reservoir) M	,, ,, ,, ...	5	1 0	850 ⅄	41·76	...
,, (Doe Park) ...*old g.*	,, ,, ,, ...	8	1 0	810 ⅄	46·57	227
,, (,, ,,) ...*new g.*	,, ,, ,, ...	5	1 0	811 ⅄	41·31	227
,, (Manningham)	J. McLandsborough, Esq	5	6 6	428 ⅄	26·91	...
,, (,, Lodge)	J. Priestman, Esq.	5	1 0	507	27·90	174
,, (Leeshaw Res.) ... M	J. Watson, Esq., C.E.	5	1 0	875 ⅄	48·39	...
,, (Chellow Dean)	,, ,, ,, ...	5	1 0	645 ⅄	35·23	197
,, (Hewenden Res.) ...*old g.*	,, ,, ,, ...	5	1 0	700 T	40·63	209
,, (,, ,,)*new g.*	,, ,, ,, ...	5	1 0	701 ⅄	37·69	209
,, (Heaton Res.) ...*old g.*	,, ,, ,, ...	8	1 0	530 ⅄	29·05	178
,, (,, ,,)...*new g.*	,, ,, ,, ...	5	1 0	531 ⅄	28·27	177
Leeds (Wortley Res.)	T. Hewson, Esq., C.E.	8	0 9	307 ⅄	25·72	165
,, (Knostrop)	,, ,, ,,	8	0 9	72 T	21·28	146
D ,, (Holbeck)	Messrs. J. Rhodes & Co.	10	32 0	127 ⅄	20·11	121
D ,, (,, W. Works Depot)	T. Hewson, Esq., C.E.	8	0 9	93 ⅄	23·28	158
D ,, (Museum)	H. Crowther, Esq.	10	46 0	177	21·46	160
,, (Woodhouse Moor)	T. Hewson, Esq., C.E.	8	0 9	307 ⅄	23·36	172
D ,, (,, Cliff)	R. Reynolds, Esq.	5	1 0	330	21·71	177
D ,, (Elmet Hall, Roundhay)	late J. H. Kitson, Esq.	5	1 6	400 T	24·55	170
,, (Weetwood Reservoir) ...	T. Hewson, Esq., C.E.	8	0 9	328 ⅄	22·66	153
,, (,, Lodge)	J. P. Reay, Esq. ...	5	0 9	400 T	21·46	146
D ,, (Allerton Hill)	T. Fenwick, Esq., C.E.	5	0 7	418 ⅄	22·11	175
D ,, (Oliver Hill, Horsforth)	C. France, Esq.	3	1 0	250 T	26·97	185
Shipley (Crag End)	Leeds & L'pool Canal Co.	8	1 0	304	26·76	...

DIVISION IX.—YORKSHIRE—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground ft.	in.	Rain Gauge. Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
	WEST RIDING—(*con.*)							
	Shipley (Moor Head)	Mrs. Knowles	8	10	0	500	24·58	160
	Oakworth (Oldfield)	W H Hopkinson, Esq. C.E	5	1	0	1008 ⅄	39·87	...
	Bingley (Gilstead Filters)	J. Watson, Esq., C.E..	5	1	0	572 ⅄	21·80	174
D	Keighley (The Knowle)	W. Clough, Esq.	5	1	0	385 T	33·51	190
D	Adel (Lawns Wood)	Mr. C. S. Irvine	5	1	0	475 T	25·32	171
	,, (Eccup, South)	T. Hewson, Esq., C.E..	8	0	9	390 T	24·71	178
	,, (,, East)	,, ,, ,, ...	8	0	9	375 ⅄	24·55	176
D	Harewood House	Countess of Harewood.	5	1	0	300	27·08	179
	,, (Arthington)	T. Hewson, Esq., C.E.	8	0	9	139 ⅄	27·13	168
	Skipton (Bolton Road, Silsden)..	Mr. D. Elder	5	1	0	370 T	26·33	163
D	Ilkley	G. W. Worfolk, Esq...	5	20	0	312 ⅄	32·06	156
D	,, (Eaton Road)	A. Wilson, Esq.	5	0	6	360 T	32·87	210
†	,, (Cherry Bank)	Mr. T. Robinson	8	1	3	600	29·33	128
	Skipton (Silsden Reservoir)	J. Watson, Esq., C.E..	5	1	0	560 ⅄	27·72	176
	Pannal (Kirkby Overblow)	A. Rowntree, Esq.	5	0	9	340 T	25·60	175
	Leathley (Lindley Wood S)	T. Hewson, Esq., C.E..	8	0	9	312 T	30·22	200
	,, (,, ,, N)	,, ,, ,, ...	8	0	9	320 T	29·83	200
	Slaidburn (Hareden Brook) ... M	T. Cookson, Esq.	8	1	2	540	68·20	...
	,, (Langden Brook) ... M	,, ,, ...	8	1	2	556	68·25	...
	,, (Whiteholme)	W. K. Wilkinson, Esq.	5	1	3	475 T	49·69	165
	Skipton (Cringle's Reservoir) ...	J. Watson, Esq., C.E..	5	1	0	760 T	29·98	176
	,, (Counter Hill)	,, ,, ,,	5	1	0	951 T	24·69	...
	,, (Chelker Reservoir) ... M	,, ,, ,,	5	1	0	730 ⅄	32·29	...
	,, (Marton House)	W. Farrer, Esq.	5	0	10	568	37·04	207
†	,, (*Craven Herald* Office)...	E. Townsend, Esq.	8	2	0	360	31·02	175
	,, (Hawthorne Cottage) ...	Leeds & L'pool Canal Co.	8	1	0	380	32·12	...
	Gargrave (Banks Hill Bank Newtn)	,, ,, ,,	8	1	0	545	29·46	...
	,, (Ray Bridge Hill)	,, ,, ,,	8	0	10	459	36·56	...
	,, (Great Scarnber Hill)...	,, ,, ,,	8	0	9	676	41·30	...
	Slaidburn (Dunsop Houses)	W. Stubbs, Esq., C.E..	8	1	0	450 T	61·27	199
	,, (Middle Knoll)..... M	,, ,, ,, ...	8	2	6	1298 ⅄	57·28	...
	,, (Brennand)	,, ,, ,, ...	8	1	0	820 ⅄	67·96	206
	,, (Whitendale)	,, ,, ,, ...	8	1	0	830 ⅄	76·35	203
	,, (Cabin Hill).. ..... M	,, ,, ,, ...	8	3	1	1559 ⅄	75·50	...
	,, (Baxton Fell) ..... M	,, ,, ,, ...	8	2	6	1540 ⅄	59·80	...
	Winterburn (Long Hill)	Leeds & L'pool Canal Co.	8	0	9	705	36·00	...
	,, (Brown Hill)	,, ,, ,,	8	1	0	961	41·35	...
D	York (Mount Villas)	J. S. Rowntree, Esq....	5	1	0	70	25·40	194
D	,, (Burton Croft)	G. Crawhall, Esq.	5	1	0	45 T	22·64	157
D	,, (Cherry Hill)	Mrs. H. Richardson ...	5	1	6	40	22·91	167
	,, (Phil. Soc. Gardens)	The Meteor. Council ...	8	1	9	53 ⅄	23·66	169
	,, (,, ,, ,,)	,, ,, ,, ...	8	1	9	53 ⅄	23·73	172
D	,, (Bootham)	R. D. Mennell, Esq. ...	5	0	10	50	24·42	163
	,, (The Retreat)	Dr. H. J. Mackenzie...	5	1	0	74	20·74	152
D	Wetherby (Ribston Hall)	Mr. J. McClelland	5	1	2	130 T	27·88	132
	Bolton Abbey Estate Office	A. Downs, Esq.	5	1	2	350	34·72	177
	Goldsborough Hall	Mr. R. Goodall	5	1	0	...	26·29	158
D	Nun Monkton...	H. Horsfield, Esq.	5	1	0	45	22·88	150

DIVISION IX.—YORKSHIRE—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above SeaLevel feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
WEST RIDING—(*con.*)							
Fewston (Swinsty E)	T. Hewson, Esq., C.E.	8	0	9	460 T	35·77	204
,, (,, W)	,, ,, ,,	8	0	9	425 T	35·79	204
,, (Timble Ings)	,, ,, ,,	8	0	9	912 T	35·00	201
,, (Timble)	,, ,, ,,	8	0	9	720 T	34·19	208
,, South	,, ,, ,,	8	0	9	525 T	33·77	201
,, North	,, ,, ,,	8	0	9	525 T	32·03	201
,, (Spinksburn)	,, ,, ,,	8	0	9	636 T	31·62	192
Blubberhouses	,, ,, ,,	8	0	9	575 T	37·75	201
D†Harrogate (Ten Acre Reservoir)	E.W. Dixon, Esq., C.E.	8	1	6	620 T	26·64	181
D ,, (Bonny Cap)	,, ,, ,,	8	1	6	700 T	28·48	182
D ,, (Wilson's Farm)	,, ,, ,,	8	1	6	630 T	28·82	185
D† ,, (Beaver Dyke Res.)	,, ,, ,,	8	0	11	575 T	29·15	181
† ,, (Harlow Hill)	G. Paul, Esq.	5	1	0	589	30·05	198
D† ,, (Irongate)	E.W. Dixon, Esq., C.E.	8	1	6	455 T	24·78	151
D† ,, (The Stray)	Mr. Gledhill	5	1	0	380	27·43	181
D† ,, (Park Parade)	late T. Lockwood, Esq.	5	1	0	400	32·15	178
Barden Reservoir ..... *old g.*	J. Watson, Esq., C.E.	8	1	2	746 ⊼	45·03	235
,, ,, ... *new g.*	,, ,, ,,	5	1	0	746 ⊼	43·86	235
West End (Hard Ing)	T. Hewson, Esq., C.E	8	0	9	1030 T	39·76	196
,, ,, ...	,, ,, ,,	8	0	9	795 ⊼	39·95	206
,, ,, Garden	,, ,, ,,	8	0	9	787 T	45·55	206
,, ,, (Rocking Hall)	,, ,, ,,	8	0	9	1225 T	42·88	208
,, ,, (Thruscross)	,, ,, ,,	8	0	9	900 T	34·50	199
,, ,, (,, No. 2)	,, ,, ,,	8	0	9	910 T	31·87	198
,, ,, (Lane Head)	,, ,, ,,	8	0	9	938 T	37·20	197
Upper Barden Reservoir	J. Watson, Esq., C.E.	5	1	0	1250 ⊼	40·61	231
Burnsall (Thorpe Fell) ....M	,, ,, ,,	5	1	0	1661 ⊼	39·78	...
,, (Sandbed Beck) ....M	,, ,, ,,	5	1	0	676 ⊼	40·26	...
D ,, Rectory	Rev. W. J. Stavert	8	4	5	503 ⊼	44·06	211
Washburn Dale (Ray Bank)	T. Hewson, Esq., C.E.	8	0	9	1137 T	35·12	196
,, ,, (High House)	,, ,, ,,	8	0	9	1112 T	35·74	180
,, Head	,, ,, ,,	8	0	9	1275 T	41·37	198
†Knaresborough(Conyngh'm Hall)	Mr. G. Knight	5	1	3	200 T	24·34	119
D ,, (Farnham)	R. Elmhirst, Esq.	5	1	0	170 ⊼	22·54	170
D Ripley Castle	Mr. J. Tunnington	5	1	0	230 T	25·68	158
D Settle (The Terrace)	J. W. Shepherd, Esq.	8	1	2	525 ⊼	39·42	214
D†Pateley Bridge (Castle Stead)	Mr. C. May	5	1	0	410	37·84	181
Grimwith Reservoir ..... *old g.*	J. Watson, Esq., C.E.	8	1	0	890 ⊼	45·89	196
,, ,, ... *new g.*	,, ,, ,,	5	1	0	893 ⊼	45·15	196
,, (Trunla Hill) .....M	,, ,, ,,	5	1	0	1201 ⊼	39·87	...
Pateley Moor (Smaden Head)	T. Hewson, Esq., C.E.	8	0	9	793 ⊼	27·87	139
D†Malham Tarn ..... *old g.*	Mr. Coulthard	5	1	0	1296 ⊼	58·73	231
D ,, ,, ...*new g.*	,, ,,	8	1	0	1296 ⊼	57·50	231
D Austwick (Crow Nest)	J. Howson, Esq.	8	1	0	570 T	39·70	204
Dallow Moor (High Skeldon)	T. Hewson, Esq., C.E.	8	0	9	719 ⊼	34·58	155
,, ,, (Harper Hill)	,, ,, ,,	8	0	9	859 ⊼	35·34	170
D†Ripon (The Red House)	F. D. Wise, Esq.	5	1	0	120	25·34	193

DIVISION IX.—YORKSHIRE—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which '01 or more fell.
WEST RIDING—(*con.*)							
D Ripon (W.W. Lumley Moor) ...	Mr. G. Craggs	8	0	6	572 T	35·89	133
Ramsgill	J. Watson, Esq., C.E..	5	1	0	450 T	44·06	177
D† Arncliffe Vicarage	Rev. W. A. Shuffrey...	8	3	0	734 T	68·77	210
D ,, (Amerdale)	J. Hammond, Esq. ...	8	1	6	734	64·73	218
† Nidderdale (High Riggs)	J. Watson, Esq., C.E..	5	1	0	1010 T	49·67	187
,, (East Gill Head)... M	,, ,, ,, ...	5	1	0	1710 ⊼	55·09	...
† ,, (Rain Stang) ..... M	,, ,, ,, ...	5	1	0	1470 T	47·14	...
† ,, (Angram)	,, ,, ,, ...	5	1	0	1150 T	54·40	156
† ,, (New Houses)	,, ,, ,, ...	5	1	0	755 T	43·69	183
Kirkby Malzeard (Drovers' Inn)..	T. Hewson, Esq., C.E.	8	0	9	633 ⊼	31·95	175
,, ,, (Hawset)	,, ,, ,, ...	8	0	9	820 ⊼	36·11	192
,, ,, (Hambleton Hill)	,, ,, ,, ...	8	0	9	1106 ⊼	39·32	...
,, ,, (Bagwith Brae).	,, ,, ,, ...	8	0	9	697 ⊼	33·19	165
,, ,, (Stone & Ears Wham)	,, ,, ,, ...	8	0	9	1118 ⊼	36·56	...
D Ripon (High Bank, Mickley) ...	Miss Harrison	5	1	6	225 T	24·94	144
Masham Moor (Benjy Guide) ...	T. Hewson, Esq , C.E..	8	0	9	1412 ⊼	49·37	...
,, ,, (W. Somerside)...	,, ,, ,, ...	8	0	9	960 ⊼	39·72	153
,, ,, (High Sour Mire)	,, ,, ,, ...	8	0	9	884 ⊼	34·17	143
,, ,, (Leighton)	,, ,, ,, ...	8	0	9	636 ⊼	29·89	166
,, ,, (Low Houses).....	,, ,, ,, ...	8	0	9	693 ⊼	33·92	180
D Oughtershaw Hall	Miss Woodd	8	1	6	1175 T	78·91	216
D† Sedbergh (Brig Flatts)	J. Handley, Esq.	5	1	0	300 T	56·03	199
D ,, (Akay)	C. E. Taylor, Esq.....	5	1	0	400 T	58·86	197
D ,, (Cemetery).....	Mr. J. Anderson.....	5	1	0	374 ⊼	59·54	215
† ,, (Thorns Hall)	Miss Sedgwick	5	1	0	400 T	57·07	204
EAST RIDING.							
Patrington (Spurn Head)	The Meteor. Council ...	8	1	0	27	17·40	154
D ,, ...	W. B. Pugh, Esq.....	5	2	6	46 ⊼	20·19	118
D Hedon (The Vicarage)	Rev. J. H. Richardson	5	1	0	...	21·01	159
D† Hull (Pearson Park)...	E. A. Peak, Esq.	5	0	6	6	22·05	157
D ,, (Springhead)	F. J. Bancroft, Esq. ...	5	1	7	15 T	22·45	167
D Cottingham (Water Works).....	,, ,, ,,	5	1	1	25 T	21·25	166
D ,, ...	J. H. Hill, Esq.....	8	1	3	26 T	21·92	158
D ,, Grange	C. J. Ringrose, Esq. ...	5	4	9	69 ⊼	21·27	165
D Skipwith.....	Rev. C. D. Ash	5	2	6	...	20·78	140
D Beverley (East Riding Asylum).	Dr. Macleod	5	1	0	175 T	23·82	180
D ,, (Register House)	G. A. Thompson, Esq ..	5	1	0	22	24·89	182
,, (New Walk)	W. Evans, Esq., C.E...	5	6	0	45	25·04	171
,, (Hull Bridge).....	,, ,, ...	5	2	6	11 ⊼	22·98	141
D Cherry Burton House	H. J. Hildyard, Esq....	8	0	8	110 T	25·16	179
D Market Weighton (Dalton Hall)	Mr. J. Allsop	8	1	4	150 T	26·35	172
D Hornsea (Elim Lodge)	T. B. Holmes, Esq. ...	8	1	3	30 B	22·49	147
Brandesburton (Hempholm).....	W. Evans, Esq., C.E...	5	2	6	11 ⊼	21·69	167
Middleton-in-the-Wolds	Rev. H. D. Blanchard.	5	1	0	156	25·80	136
D Pocklington (Warter)	J. Coxon, Esq.	5	1	10	230 T	28·46	145
Catton Rectory [York].....	Rev. H. L. Puxley.....	5	0	4	50 T	22·53	...

DIVISION IX.—YORKSHIRE—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height above Ground.	Height above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
EAST RIDING—(*con.*)						
D Driffield (Beverley Road)	Rev. J. T. Harwood ...	8	8 0	68 T	23·93	167
,, (York Road) *Snowdon.*	W. E. Lovel, Esq. ...	5	1 0	76 T	27·05	162
,, (Highfield)	Mr. G.R. Merryweather	5	1 0	76	26·01	163
Wetwang	Rev. E. M. Cole	5	1 0	235 T	24·07	150
D Thixendale	Rev. W. H. Fox	10	0 10	425 T	29·50	179
D Lowthorpe (The Elms)	H. Onslow Piercy, Esq.	5	1 0	63 ⅄	26·94	166
Hunmanby (Holly Bank)	Miss Suter	5	1 2	...	27·34	...
NORTH RIDING.						
Terrington Hall	Mr. T. Suffield	5	1 5	300 T	24·09	195
†Old Malton	H. Hurtley, Esq.	10	1 0	75 T	22·19	...
D Hovingham (Wigganthorpe)	Mr. J. S. Upex	5	1 0	350 T	25·01	188
D Melmerby (Baldersby)	W. Gregson, Esq.	5	1 0	101 T	21·33	164
D Thirsk (Sowerby)	C. M. Swarbreck, Esq..	5	1 0	105 T	19·31	171
,, (,,)	A. C. Bamlett, Esq. ...	5	...	...	20·57	114
D Pickering (The Rectory)	Rev. G. H. Lightfoot..	5	0 8	180	22·42	128
D Bedale (Burneston)	Rev. J. T. Hartley ...	5	3 9	110 T	20·09	145
D ,, (Thorpe Perrow)	Mr. W. Culverwell ...	5	1 6	170	22·39	137
†Hawes Junction	The Meteor. Council ...	8	1 0	1135	62·32	229
†Aysgarth Vicarage M	Rev. F. W. Stow	3	1 0	643 ⅄	37·78	...
D ,, ,,	,, ,, ,,	8	1 0	648 ⅄	36·62	185
,, ,,	,, ,, ,,	12	1 0	646 ⅄	37·36	...
D†Leyburn (Bolton Hall)	Mr. F. Scrivener	8	1 0	420	30·63	181
D Seamer (Irton)	W. Millhouse, Esq. C.E.	8	1 0	94	25·70	144
D Scarborough (Osgodby)	,, ,,	8	1 0	166	24·80	120
D ,, (Observatory)	E. W. Ellerbeck, Esq..	8	1 0	220	24·10	151
Boltby	A. C. Bamlett, Esq. ...	...	...	...	20·41	...
D Northallerton (The Lodge)	W. Stead, Esq., C.E....	8	1 0	131 T	20·68	138
D ,, (Osmotherley)	T. Yeoman, Esq.	8	0 8	650	19·22	128
Richmond (The Grove)	G. Roper, Esq.	5	1 3	430 T	27·64	...
Northallerton (Rounton Grange).	The Royal Meteor. Soc.	8	1 0	242	21·32	164
RobinHoodBay(FylingdalesVic.)	Rev. R. J. Cooper	5	0 6	120	20·92	...
D Ingleby Manor	Lord De Lisle	5	0 11	440 T	31·31	162
D ,, Greenhow Vicarage	Rev. J. Hawell	5	1 0	448 T	27·31	170
D East Layton	Mrs. Proud	5	1 0	575 T	23·71	129
D Stanwick Park [Darlington]	Mr. W. Higgie	5	1 1	300 T	22·92	162
Forcett Park [,,]	Capt. Michell	5	1 0	360 T	21·95	153
Whitby (Royal Crescent)	T. Newbitt, Esq.	8	1 6	145 T	23·67	135
D ,, (Mulgrave Castle)	Mr. J. Corbett	5	1 0	410 T	25·84	185
Guisborough (Hutton Hall)	Sir J. W. Pease, Bt., M.P.	5	1 3	400 T	27·24	162
D ,, (LockwoodBeckRes)	W. I'Anson, Esq., C.E.	8	1 0	632 ⅄	27·68	172
,, (,, ,, ,,)M	,, ,, ,,	...	...	...	27·42	...
D Middlesborough (Ormesby)	Mr. W. Sanderson	5	1 0	100 T	22·94	171
D ,, (Albert Park)	J. M. Parnaby, Esq. ...	8	2 0	30	19·83	159
D Hury Res. [Barnard Castle]	D. D. Wilson, Esq. ...	8	1 0	866 T	39·95	195
D Mickleton	G. J. Symons, Esq. F.R.S	8	1 0	...	32·16	164
† ,, (Lime Kiln Pasture) M	,, ,, ,,	8	1 0	1175 T	35·80	...
† ,, (,, ,, ,,)M	,, ,, ,,	8	1 0	1175 T	37·25	...

DIVISION X.—NORTHERN COUNTIES.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which .01 or more fell.
	DURHAM.							
D	Darlington (Hurworth Grange)..	Mrs. Backhouse	5	1	0	161 ⊼	20·41	170
D	,, (Elcott, Hurworth)..	Rev. W. E. Stewart ...	5	1	0	121 T	20·55	166
D†	,, (Cleveland Parade)..	S. Hare, Esq.....	5	1	0	160 T	21·64	182
	,, (Public Park).....	Mr. J. Morrison	5	1	0	...	23·80	175
D	,, (LangholmeCrescent)	J. H. Simpson, Esq....	5	1	6	165 T	22·19	162
	,, (Hummersknott) ...	Mr. J. Short	5	1	0	...	18·93	129
D	Barnard Castle (County School)..	E. Wells, Esq.	5	1	6	540 ⊼	28·24	168
D	Heighington (Walworth Castle).	W R InnesHopkins,Esq	5	0	8	150	22·67	171
	Stockton (Rimswell)	W.Anderson, Esq.,C.E.	5	1	0	150 T	19·70	165
	Bishop Auckland (The Castle)...	Mr. E. Ford	5	1	0	300	22·43	188
	West Hartlepool (Lynn Street)..	Mr. H. Lamb.....	5	63	0	84	14·57	143
D	Hartlepool (Hurworth Burn) ...	T. Fenwick, Esq., C.E.	5	0	7	360	23·02	121
D	,, (Hart Reservoir).....	,, ,, ,,	8	0	9	164	19·08	143
D†	Wolsingham	Mr. A. Mitchell	5	1	0	464 ⊼	28·63	181
	Eastgate (All Saints' Vicarage)..	Rev. J. G. B. Knight...	5	0	9	768	36·18	195
D	Tow Law.....	Rev. T. E. Espin	5	1	0	990	24·79	145
	Durham Observatory.....	The Meteor. Council ...	12	4	0	340	20·76	184
D	Ushaw College	Rev. J. Corbishley.....	5	0	9	600 ⊼	23·21	162
D	Weardale W.W. (Tunstall) ...	R. Askwith, Esq., C.E.	8	1	2	724 ⊼	30·69	147
†	,, ,, (Waskerley 6)	,, ,, ,, ...	8	4	2	1229 ⊼	29·16	...
	,, ,, (,, 3)	,, ,, ,, ...	8	4	6	1433 ⊼	29·31	...
†	,, ,, (,, 4)	,, ,, ,, ...	8	4	7	1321 ⊼	29·24	...
†	,, ,, (,, 5)	,, ,, ,, ...	8	4	2	1244 ⊼	29·31	...
D	,, ,, (,,)	,, ,, ,, ...	8	0	11	1179 ⊼	30·18	131
†	,, ,, (,, 2)	,, ,, ,, ...	8	4	5	1367 ⊼	29·21	...
†	,, ,, (,, 1)	,, ,, ,, ...	8	4	4	1317 ⊼	29·02	...
D	Consett W.W. (Smiddy Shaw)...	,, ,, ,, ...	8	1	3	1128 ⊼	30·51	203
D	Seaham Harbour	Mr. G. H. Aird	8	1	6	141	21·29	160
	,, Vicarage	Rev. A. Bethune	5	0	6	80 T	21·39	...
D	,, Hall	Mr. R. Draper	5	1	0	106 ⊼	22·09	112
	Houghton-le-Spring (Myre Hall)	D. Balfour, Esq., C.E.	5	1	0	261 T	21·20	163
D	Sunderland(W.HendonHo) No. 5	T. W. Backhouse, Esq.	5	1	0	130 ⊼	21·57	164
	,, (,, ,, ,,) No. 6	,, ,, ,,	5	1	0	130 ⊼	21·76	...
	,, (Fever Hospital)	H. Scurfield, Esq.,M.D.	5	1	0	105	18·37	154
D	Gateshead (Eighton Cottage) ...	Miss Favell.....	5	3	1	515	22·23	162
D	Ryton-on-Tyne	J. P. Dalton, Esq.....	5	1	0	258 T	24·42	184
D	,, ,, ...	J.W. Smith, Esq.,M.D.	5	1	6	...	23·24	137
	NORTHUMBERLAND.							
D	Haltwhistle (Unthank Hall).....	Rev. D. Dixon Brown..	5	0	9	380 T	37·56	183
D	Ovingham (W. Tyne Colliery)...	T. Gilchrist, Esq.	8	2	0	179 ⊼	24·01	167
D	Corbridge (Howden Dene)	J. H. Straker, Esq. ...	5	0	9	200 T	23·67	168
	Newcastle (Clifton Road)	Dr. Merz.....	8	1	6	314 ⊼	21·92	143
†	,, (Lit. and Phil. Soc.)..	H. Richardson, Esq. ..	8	55	0	160	23·08	...
D†	,, (*Chronicle* Office).....	A. Yarrow, Esq.....	8	30	0	148	22·09	144
†	,, (Northumberland Rd.)	N. H. Martin, Esq. ...	8	45	0	245	21·51	176
†	,, (Gladstone Terrace)...	Mr. W. Smurthwaite...	2	6	0	156 T	20·22	127
	,, (Claremont Road) ...	Mr. T. Bone	4	2	0	240 T	22·39	132

DIVISION X.—NORTHERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground.	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
NORTHUMBERLAND—(*con.*)						
D Newcastle (Leazes Park)	W. G. Laws, Esq., C.E.	5	1 0	250 ⅄	23·15	167
D† ,, (Town Moor)	A. Wright, Esq.	5	2 0	201 ⅄	22·19	132
† ,, (Wellburn, Jesmond)	W. H. Holmes, Esq.	5	1 6	161 T	22·75	153
North Shields (Post Office)	The Meteor. Council	8	1 4	100	20·45	150
D ,, ,, (Chirton Cottage)	J. F. Spence, Esq.	5	0 10	130 T	22·11	167
D ,, ,, (Tynemouth)	J. Walker, Esq., C.E.	5	1 8	65 ⅄	19·95	160
Newcastle and Gateshead W. W. Whittle Dean	G. Smith, Esq.	10	...	...	24·30	...
Swinburn (Woodford)	,, ,, ,,	10	0 6	500 ⅄	30·15	...
North Tyne (Green Crag)	,, ,, ,,	10	0 6	800 ⅄	27·92	...
,, ,, Valley	,, ,, ,,	10	0 6	300 ⅄	27·85	...
Hallington	,, ,, ,,	10	0 6	469 ⅄	28·56	...
,, (Fawcett)	,, ,, ,,	10	0 6	563 ⅄	27·52	...
Gunnerton Burn (Camphill)	,, ,, ,,	10	0 6	676 ⅄	26·12	...
D Scots Gap (Wallington)	Mr. Keith	8	2 9	446 T	32·17	163
D Angerton Hall	Mr. R. Elliott	5	1 0	320 ⅄	36·97	141
D Morpeth (Stobhill)	Capt. Terry	5	1 0	150	23·15	187
D ,, (Bothalhaugh Garden)	Hon. & Rev. W. C. Ellis	5	0 10	35 ?	23·74	170
,, (,, ,,)M	,, ,, ,, ,,	5	0 10	35	23·51	...
D ,, (,, Lawn)	,, ,, ,, ,,	5	0 10	137	22·44	173
,, (,, ,,) M	,, ,, ,, ,,	5	0 10	135	21·94	...
D†Scots Gap (Rothley Crag)	J. Daglish, Esq.	5	0 6	665 T	33·86	138
D Morpeth (Cockle Park)	Mr. G. P. Berry	8	1 0	325 ⅄	26·40	141
Ewesley Station (Redpath)	A. L. Forster, Esq., C.E.	...	1 0	850 T	29·75	...
,, ,, (Tod Crag)	,, ,, ,,	...	1 0	1000 T	30·41	...
,, ,, (Fallowlees)	,, ,, ,,	...	1 0	850 T	32·77	...
,, ,, (Chertners)	,, ,, ,,	...	1 0	1000 T	31·56	...
†Rededale (Horsley)	G. Smith, Esq.	8	1 0	600	26·47	...
†Rothbury (Brinkburn Priory)	Mrs. Hugh Fenwick	8	1 2	257 T	26·17	...
D† ,, (Cragside)	Lord Armstrong, C.B.	8	1 0	400 ⅄	30·95	148
†Redewater (Blakehope)	G. Smith, Esq.	8	1 1	830	29·10	...
† ,, (Ellis Crag)	,, ,,	8	1 0	1200	33·56	...
† ,, (Chattlehope)	,, ,,	8	1 0	830	35·90	...
† ,, (Catcleugh)	,, ,,	8	1 0	794	33·06	...
†Alwinton (Biddleston Hall)	P. Dodds, Esq.	5	1 0	820 T	32·23	147
Alnwick Castle	The Meteor. Council	5	0 4	178	24·92	234
D Howick Hall	Rt. Hon. Earl Grey	8	0 10	121 ⅄	20·58	124
Ilderton (Lilburn Tower)	E. J. Collingwood, Esq.	10	6 0	300 T	20·14	...
Wooler	Dr. R. Walker	8	0 10	176 T	27·60	...
Bamburgh	Mr. W. C. Good	5	1 0	75 L	19·50	...
D Pawston [Coldstream]	B. P. Selby, Esq.	8	1 0	328 T	26·95	200
D Ancroft (Cheswick)	Gen. Sir W. Crossman.	5	0 8	100 ⅄	19·81	182
CUMBERLAND.						
D Millom (Leyfield)	Cedric Vaughan, Esq C.E	5	1 2	81 ⅄	45·12	218
Kirksanton (The Croft)	J. E. Brockbank, Esq.	5	1 5	...	41·34	253
D Ulpha School House	Mr. J. Tyson	5	...	...	73·75	200
D Ravenglass (The Grove)	A. Watt, Esq.	5	1 2	84 T	39·82	179
D Eskdale	Rev. R. H. Snape	5	1 6	150?	69·84	258

DIVISION X.—NORTHERN COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
CUMBERLAND—(*con.*)						
D Seascale (Whinthwaite)	Dr. Hellon	5	1 0	52 ⅄	32·06	164
Braystones	W. H. Watson, Esq.	10	3 6	36	36·18	...
Sprinkling Tarn M	G. J. Symons, Esq. F.R.S.	4	0 6	1985	147·30	...
Wastdale Head M	,, ,, ,,	4	0 6	204 T	107·97	...
Styehead Tarn M	,, ,, ,,	4	0 6	1472 T	154·80	...
†The Stye A M	,, ,, ,,	4	0 6	1077 T	202·20	...
† ,, ,, B M	,, ,, ,,	4	1 0	1077 T	207·20	...
,, ,, C M	,, ,, ,,	4	1 0	1077 T	208·45	...
,, ,, D M	,, ,, ,,	4	1 0	1077 T	177·75	...
†Seathwaite M	,, ,, ,,	4	0 6	422 T	152·53	...
,,	,, ,, ,,	5	1 0	422 T	154·48	...
D*† ,,	The Royal Meteor. Soc.	5	1 0	420 T	151·00	225
Ullscarf M	G. H. Hill, Esq., C.E.	7	1 8	2100 T	131·60	...
Egremont (Park Ho., Bigrigg)	P. L. Addison, Esq.	5	4 6	290 T	45·39	224
D Cleator (The Flosh)	D. Ainsworth, Esq.	5	1 11	208 T	48·24	186
,, Moor Water Works	R. Robertson, Esq.	5	1 3	395 T	66·06	182
†Helvellyn (Birkside) M	G. H. Hill, Esq., C.E.	7	1 3	1900 T	77·70	...
†Wythburn M	,, ,, ,,	7	1 4	580 T	92·90	...
D Borrowdale Vic.=Rosthwaite	Rev. A. J. Heelis	5	1 0	330 T	115·48	220
,, ,, ,, M	,, ,, ,,	5	1 0	330	121·37	...
D†Buttermere (Hassness)	Mr. S. Stewart	5	1 0	355	104·95?	217
D†Borrowdale (Grange)	Mr. Threlkeld	5	0 9	271 T	95·09	216
Armboth Fells (The Pewitts)	G. H. Hill, Esq., C.E.	7	1 6	1650 T	99·00	...
Helvellyn (Whiteside)	,, ,, ,,	7	1 6	2100 T	71·00	...
Thirlmere (Dale Head Hall)	,, ,, ,,	7	1 5	620 T	81·80	...
D Winder	G. Scoutar, Esq., C.E.	8	22 0	578 ⅄	49·01	143
D†Whitehaven (Irish Street)	Dr. Welby I'Anson	5	1 1	21 ⅄	37·55	180
D†Keswick (Barrow House)	Miss E. G. Langton	8	0 6	282 ⅄	73·03	228
Distington (Gilgarron)	Mr. A. Kydd	5	4 9	470 T	41·82	194
Ullswater (Hallsteads)	S. A. Marshall, Esq.	5	2 0	497 T	53·98	...
Keswick (Deer Close)	John Marshall, Esq.	7	1 9	300 T	63·20	217
,, (Derwent Island) *old g.*	,, ,, ,,	5	0 7	280	62·21	227
,, (,, ,,) *new g.*	,, ,, ,,	5	0 6	290	60·45	227
D ,, (Eskin Place)	J. Postlethwaite, Esq.	8	6 4	298 T	59·82	193
D† ,, (Bank)	J. W. Houghton, Esq.	5	1 0	265 T	56·37	233
D† ,, (Shu-le-crow)	A. Mitchell Dawson, Esq.	5	0 7	296 T	58·88	223
D Cockermouth (Ullock)	J. H. Walker, Esq.	5	1 3	313 ⅄	54·07	220
D ,, (Whinfell Hall)	W. Robinson, Esq.	5	2 0	265 ⅄	51·38	234
D ,, (Brandlingill)	Col. F. R. Sewell	5	1 0	320 ⅄	57·79	210
Bassenthwaite (Mirehouse)	Miss Spedding	5	1 1	300 T	47·70	203
D ,, (Bassenfell)	S. G. Rathbone, Esq.	8	1 0	384	41·14	199
D†Cockermouth (Higham)	Miss Hoskins	5	1 0	478 ⅄	46·79	206
D ,, (Broughton Grange)	G. S. Wilson, Esq.	5	1 3	209 ⅄	41·67	193
Penrith (Nandana)	G. Varty Smith, Esq.	5	3 0	650 T	29·08	233
† ,, (Fell Lane, Fir Bank)	T. Lester, Esq.	5	1 0	575 T	30·66	167
,, (Greystoke)	H. Walker, Esq.	5	1 3	650	46·77	...
D ,, (,, Belle View)	Mr. M. Rowe	5	4 0	680 T	39·20	215
,, (Ennim)	Mrs. Riley	8	0 8	660	42·33	199

DIVISION X.—NORTHERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
CUMBERLAND—(*con.*)							
Penrith (Kirkland Vicarage) ...	Rev. A. Edwards	5	1	0	640 T	30·90	...
Maryport (Netherhall)	H. P. Senhouse, Esq...	8	0	6	27 ⅄	37·05	165
D Penrith (Nunwick Hall)	Mrs Heywood Thompson	5	1	0	298 T	28·85	195
Melmerby	Rev. W. Y. Craig	5	0	6	580 T	35·27	...
D Aspatria (Brayton Hall)	Mr. W. Stewart.....	8	2	0	200	48·53	199
D Wigton (Brookfield)	J. J. Jopling, Esq.....	5	0	9	124 ⅄	37·57	221
Wreay Vicarage.....	Rev. A. R. Hall	5	2	0	310 T	28·31	191
Geltsdale.....	C. B. Newton, Esq., C.E.	5	1	2	924 ⅄	41·06	...
†Carlisle (Cemetery)	S. Cartmell, Esq.	8	3	6	114 ⅄	32·01	204
,, (Stanwix).....	B. Scott. Esq.....	8	1	6	100 T	31·65	202
D ,, (Newby Grange)	T. H. Hodgson, Esq....	5	0	8	64 ⅄	28·98	193
,, (Scaleby)	The Royal Meteor. Soc.	5	1	0	112	31·73	212
D Brampton (Denton House)	Mr. J. Charlton	5	1	5	541 ⅄	40·12	216
,, (,, ,,) ...M	,, ,, ...	5	1	2	541 ⅄	39·76	...
WESTMORELAND.							
D Kirkby Lonsdale (Barbon Manor)	A. Ford, Esq.....	5	1	3	650 T	45·22	224
D ,, ,, (,,)	Miss Wilkinson	5	1	0	310 T	50·71	198
D Milnthorpe (Beathwaite, Levens)	W. H. Crewdson, Esq..	5	1	3	120 T	49·90	192
D Kendal (Helm View)	T. N. Ritson, Esq., C.E.	5	1	0	140 T	56·38	191
,, (Holmcroft)	R. Rhodes, Esq.....	5	1	3	176 T	57·03	195
D ,, (Ivy Garth)	R. J. Nelson, Esq.....	5	1	6	146 T	52·83	194
D ,, (Hawesmead)	G. F. Braithwaite, Esq.	8	0	6	175 ⅄	53·46	203
D ,, (Ellergreen)	J. Cropper, Esq.....	5	1	6	270 T	64·12	216
D Bowness (Fallbarrow)	H. E. Rawson, Esq....	8	1	0	135 T	67·57	219
D Ambleside (Skelwith Bridge) ...	A. J. Adams, Esq.....	5	1	8	190 T	99·66	229
Little Langdale (Fell Foot) ...M	S. A. Marshall, Esq....	5	2	2	380	127·30	...
D Ambleside (Gale House)	G. A. Johnston, Esq. M.D.	5	1	0	250 T	85·18	229
D† ,, (Lesketh Howe)	Miss Sharp	5	2	6	175 T	89·64	245
D Elterwater (Birch Hill).....	Capt. Robinson	5	1	1	243	104·07	225
D Dungeon Ghyll	S. A. Marshall, Esq. ...	5	0	9	310	130·78	242
,, ,, ...M	,, ,, ,, ...	5	1	6	311	129·96	...
Mickleden .....M	,, ,, ,, ...	5	1	6	490	143·93	...
D†Grasmere (High Close)	F.M.T. Jones Balme, Esq	8	0	9	553 T	93·89	229
D ,, (Pavement End)	T. A. Green, Esq.	5	1	0	214 T	101·95	231
D Ravenstonedale (Brownber).....	J. Fothergill, Esq.....	5	3	0	826 T	43·27	177
Orton Vicarage	Rev. E. Holme	5	3	6	770 T	57·15	212
D†Kirkby Stephen (Redmaine Ho.).	Mrs. T. Mason	5	1	0	574 T	42·79	203
Fairfield .....M	T. A. Green, Esq.	5	1	0	2860 T	87·87	...
,, ...M	,, ,, ,, ...	8	1	0	2860 T	92·08	...
Shap (Church View)	W. Wilkinson, Esq. ...	8	1	2	830 T	41·69	...
D ,, (Hillfield)	A. B. Whiteside, Esq...	5	1	0	834 T	47·31	197
Grisedale (Ruthwaite Lodge) M	Mr. A. Milne	8	1	6	1750	109·65	...
D†Patterdale Hall	,, ,, ...	7	1	3	490 T	84·85	224
D ,, (Greenside Mine).....	W. H. Borlase, Esq. ...	7	1	6	1000 T	100·51	169
Appleby (Ormside)	Rev. J. Brunskill	5	4	0	480	27·00	169
D ,, (Castle Bank).....	C. R. Rivington, Esq...	5	1	2	440 T	29·90	195
Ullswater (Swarth Fell) .....M	G. J. Symons, Esq. F.R.S.	5	1	3	1000 T	50·10	...
,, (Sharrow Bay)	Mr. E. Helps	5	0	7	500	46·67	...
Lowther Castle [Penrith].....	Mr. F. Clarke	8	3	0	750 T	35·29	151

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1898	Days on which '01 or more fell.
				ft. in.	feet.	inches.	
	MONMOUTH.						
D	Rumney (Witla Court)	H. Heywood, Esq.	5	1 0	176	33·04	188
D†	Marshfield (Llwynarthan)	F. G. Evans, Esq.	5	1 1	72 B	34·20	190
	Caldicot Level (Porton)	Togarmah Rees, Esq. C.E	5	1 3	27 T	24·80	151
D	Portskewett (Sudbrook)	W. K. Lawrence, Esq. C.E	8	1 6	53 T	26·56	143
	,, (Caldicot Hall)	Rev. E. T. Williams	9	1 3	40	27·33	...
	Newport (Friar Street Yard)	The Meteor. Council	...	...	...	37·75	181
	,, (Ynis-y-bro)	,, ,, ,,	5	1 0	115	29·70	166
D	Llanvair Discoed (Penhein)	E. J. Lowe, Esq., F.R.S.	5	0 9	488	35·99	158
D	Chepstow (Mounton Road Res.)	F. Hammond, Esq.	5	1 0	312	30·18	163
D	,, (Shirenewton Hall)	E. J. Lowe, Esq., F.R.S.	8	1 0	531 T	37·70	198
	,, (The Mount)	G. M. Smith, Esq.	5	1 0	150 T	28·60	...
D	,, (Piercefield Park)	H. Clay, Esq.	5	1 6	300	29·51	156
D	,, (Itton Court)	E. Curre, Esq.	8	4 6	390	35·29	189
D	Llanfrechfa Grange	F. J. Mitchell, Esq.	5	4 0	326 ⊼	36·64	168
D	Tredunnock	Rev. C. T. Salusbury	5	2 3	170 ⊼	31·75	162
	Usk (Twyn House)	F. G. Harris, Esq.	8	2 0	60 T	35·05	162
	Abersychan (The Hawthorns)	J. W. Mulligan, Esq, MD	5	1 0	755 T	43·87	210
D	Bettws Newydd (Brynderwen)	Genl. Gillespie	5	1 3	150 T	30·51	154
D	Tredegar (The Willows)	G. A. Brown, Esq.	8	1 0	1024 T	55·92	185
	Blaenavon Gas Works	C. White, Esq.	5	0 9	980	46·37	...
D	Monmouth (The Hendre)	Mr. Coomber	8	1 0	176 T	25·03	162
	Abergavenny (Larchfield)	Dr. Glendinning	5	1 0	240 T	27·99	153
	,, (Dyne House)	Dr. Steel	5	1 2	220 T	30·79	167
D	,, (The Chain)	W. Baker Gabb, Esq.	5	1 0	250	32·92	183
D	Llantilio Court	Sir H. M. Jackson, Bt.	5	0 10	207 ⊼	27·26	145
D	Llanvihangel Court	Col. Sturt	5	2 4	508 ⊼	30·95	186
	,, ,,	,, ,,	5	2 4	508 ⊼	32·17	186
D	Monmouth (Pentwyn)	Rev. Canon Harding	5	1 0	191 B	24·79	137
	GLAMORGAN.						
D	Barry (Park Road)	J. Bell, Esq.	5	4 0	191 ⊼	31·84	164
*	Cowbridge (Fonmon Castle)	O. H. Jones, Esq.	8	1 2	130	40·14	160
D	Barry W. W. (Biglis)	E. W. Waite, Esq., C.E.	5	1 0	20 T	26·76	172
	,, ,, (Pencoedtre)	,, ,, ,,	5	1 0	200 T	29·06	...
	,, ,, (Dynas Powis Res.)	,, ,, ,,	5	1 0	165 T	33·31	179
	Cardiff (Cogan Pill, Llandough)	C. H. Priestley, Esq. C.E.	5	1 0	122 ⊼	32·94	201
D	,, Castle	Mr. A. Pettigrew	5	1 0	38 ⊼	34·51	173
D	,, (Ely)	C. H. Priestley, Esq. C.E.	5	1 0	53 ⊼	36·64	190
D	,, (Lisvane)	,, ,, ,,	5	1 0	150	33·65	183
	,, (New Filters, Heath)	,, ,, ,,	5	1 0	132	37·60	198
	,, (Llanishen Res.)	,, ,, ,,	5	1 0	155	37·06	184
	Cowbridge (Ash Hall)	E. Tudor Owen, Esq.	8	1 0	315 ⊼	41·77	203
	Llantrisant (Talygarn)	G. L. Clark, Esq.	5	2 0	250	50·62	179
D	Oystermouth (Newton)	Rev. S. Jones	5	0 9	279 T	45·05	214
	Pontypridd (The Reservoir)	W. Jones, Esq.	5	1 0	300	57·70	173
	,, (Maesderwen, Graig)	T. Bowen, Esq.	5	10 0	425 T	50·59	182
D	Swansea (Le Mayals)	J. E. Stevens, Esq.	8	1 6	230 T	45·18	187

DIVISION XI.—MONMOUTH, WALES AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell
GLAMORGAN—(*con.*)							
Swansea (The Knoll)	E. H. Perkins, Esq. ...	8	1	0	150 T	42·72	204
D ,, (St. James' Gardens)	T. T. Wood, Esq.	5	1	6	141 ⅄	44·32	197
D ,, (Uplands Crescent)	W. A. Ford, Esq.	5	1	0	132 T	42·23	194
Briton Ferry	H. A. Clarke, Esq. ...	5	1	0	33 ⅄	43·47	182
Morriston (Glanravon)	J. Naysmith, Esq.....	5	1	0	53 ⅄	41·86	168
D Neath	E.C. Pole, Esq.	5	1	0	204 ⅄	45·33	201
D ,, (Fairy Land)	Major Green	5	1	9	170 B	44·53	206
Pengam	R. W. Jones, Esq.	8	1	0	500	42·23	164
D†Glyncorrwg	T. F. Brown, Esq., C.E.	5	4	6	717 B	90·30	199
D Cwmaman	W. J. Heppell, Esq. ...	5	2	3	740 T	59·15	160
Rhondda (Pont Lluest WenCott.)	W. Jones, Esq.	5	1	0	1255	54·10	212
D Mountain Ash (Maesydderwen)	M. Morgan, Esq.	5	1	0	483 ⅄	50·29	189
,, ,, (Darranlas Res.)	J. Williams, Esq.	5	1	0	552	57·54	192
,, ,, (Clydach Res.)	,, ,, ,, ...	5	1	0	937	68·65	192
D Treherbert (Bute Colliery)	Sir W. T. Lewis, Bt. ...	5	1	0	670	84·16	200
D† ,, (Tyn-y-waun)	O. Thomas, Esq.	5	1	0	800	82·01	215
† ,, (,,) M	,, ,, ,, ...	5	1	0	800	84·96	...
D Gorseinon (Penllergaer)	Sir J.T.D.Llewelyn,Bt.	5	3	0	240 T	43·63	187
D Aberdare (The Mardy)	Sir W. T. Lewis, Bt. ...	5	2	0	431 ⅄	50·40	193
D† ,, (Abernant)	Evan Jones, Esq.	5	4	6	430	49·28	151
D Felindre (Lliw Reservoir)	R. H.Wyrill, Esq., C.E.	8	1	3	426 T	48·54	207
D Dowlais (Gwernllwyn)	R. C. Harrison. Esq....	5	1	9	1035 ⅄	46·95	199
D ,, (Cwm Bargoed)	G. A. Lundie, Esq., C.E.	5	1	0	1237 ⅄	39·82	145
D Ystalyfera (Wern Schools)	Mr. J. Williams	5	1	3	240 T	60·50	216
D ,, (Tanyrallt)	Miss H. A. Lewis	8	1	6	300	61·10	211
CARMARTHEN.							
Llanelly (Old Market Place)	G. Watkeys, Esq., C.E.	5	10	0	35 T	37·98	186
D ,, (New Road)	J. F. Young, Esq.....	5	0	8	53 T	35·78	185
D ,, (Cwmlliedi W.W.)	G. Watkeys, Esq., C.E.	5	3	0	240 ⅄	45·83	212
Llandilo (Dynevor Castle)	Rt. Hon. Lord Dynevor	8	1	0	202 T	46·76	195
D Llandovery	J. Watkins, Esq.	5	1	0	217 T	47·54	227
,, (Toun)	F. H. Perkins, Esq. ...	5	1	5	230 T	47·17	196
D Llanwrda (Dolaucothy)	Gen.Sir J H Johnes, GCB	5	2	0	496 T	50·81	216
Llandovery (Neuaddfawr)	R.Campbell Davys, Esq.	5	1	0	400 T	34·61	117
PEMBROKE.							
Pembroke (Stackpole Court)	Rt.Hon. Earl of Cawdor	6	1	6	60 ⅄	37·29	204
St. Ann's Head	The Meteor. Council ...	8	0	8	150	35·51	184
D Haverfordwest (High Street)	E. P. Phillips, Esq. ...	5	1	0	95 T	42·56	202
D Clarbeston (Penty Park)	Capt. F. Lloyd Philipps	...	...		320	44·73	185
D Solva	W. H. Hillyer, Esq. ...	5	2	0	141 ⅄	36·50	208
D St. David's	Dr. W. P. Propert.....	5	1	0	216	35·52	202
D Llanrhian Vicarage	Rev. Prebendary Lewis	5	1	0	295 T	41·27	203
D Castle Malgwyn [Llechryd]	Mr. Baldwin	5	1	0	...	41·95	188

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
CARDIGAN.							
Strata Florida (Hafod)	T.J. Waddingham, Esq	5	1	0	580 T	*51·79*	...
Aberystwith (Castle Grounds)	A. Thomas, Esq.	8	1	0	59	30·81	187
,, (N. Parade)	,, ,,	8	1	0	18	39·16	187
D ,, (Gogerddan)	Sir Pryse Pryse, Bart.	5	1	0	80 B	50·95	166
BRECKNOCK.							
D† Nanthir Reservoir [Aberdare]	O. Williams, Esq., C.E.	5	1	0	860 ⅄	53·16	239
,, ,, [,,] M	,, ,, ,,	5	1	0	860 ⅄	53·78	...
D Colbren (Penwyllt)	Mrs. Palmer	5	1	0	1108 T	67·47	143
D Ebbw Vale Waterworks	T. J. Thomas, Esq., C.E.	5	1	0	1413 ⅄	54·52	211
D† Taff Fechan (Pentwyn Res.)	T. F. Harvey, Esq., C.E.	5	1	0	1120	60·89	211
† ,, ,, (,, ,,) M	,, ,, ,,	5	1	0	1120	61·01	...
† Cardiff WW (Cwm Taff Fawr No 5)	C. H. Priestley, Esq. C.E.	5	1	0	1143 ⅄	67·86	...
,, ,, (Storey Arms)	,, ,, ,,	5	1	0	...	77·40	...
† ,, ,, (Cwm Taff Fawr No 1) M	,, ,, ,,	5	1	0	2350 T	77·35	...
,, ,, (Cantreff Res.)	,, ,, ,,	5	1	0	1120	70·13	219
,, ,, (Beacons Res., No. 6)	,, ,, ,,	5	1	0	1328 ⅄	81·56	230
,, ,, (Nant Penig)	,, ,, ,,	5	1	0	...	88·57	...
D† Taff Fechan (Neuadd Res.) No. 1	T. F. Harvey, Esq., C.E.	5	1	0	1462	68·62	205
† ,, ,, (,, ,,) No. 1 M	,, ,, ,,	5	1	0	1462	68·65	...
D ,, ,, (,, ,,) No. 4	,, ,, ,,	5	1	0	1487	79·18	205
,, ,, (,, ,,) No. 2 M	,, ,, ,,	5	1	0	1993	79·70	...
,, ,, (,, ,,) No. 5 M	,, ,, ,,	5	1	0	1515	82·95	...
,, ,, (,, ,,) No. 7 M	,, ,, ,,	5	1	0	2017	77·62	...
,, ,, (,, ,,) No. 8 M	,, ,, ,,	5	1	0	1723	87·36	...
,, ,, (,, ,,) No. 3 M	,, ,, ,,	5	1	0	1843	53·81	...
,, ,, (,, ,,) No. 9 M	,, ,, ,,	5	1	0	1997	55·31	...
,, ,, (,, ,,) No. 6 M	,, ,, ,,	5	1	0	2099	91·31	...
Crickhowell (Glanusk Park)	Sir J. R. Bailey, Bt.	5	1	0	290	34·24	167
,, (Gwernvale)	E. Pirie Gordon, Esq.	5	1	0	393 ⅄	31·37	164
,, (Penmyarth)	S. H. Cowper Coles, Esq.	5	1	0	330	31·77	182
Talybont (Cui)	H. Jones Williams, Esq.	5	1	0	490 T	38·74	...
† Cantreff Rectory ..... *old g.*	Rev. J. J. Evans	5	1	0	630 T	41·47	169
,, ,, ...*new g.*	,, ,, ,,	5	1	0	630 T	40·86	...
D Llanfrynach (Tymawr)	Major R. D. G. Williams	5	1	0	450 T	36·46	180
D† Brecknock (The Barracks)	Colonel Browne	5	5	0	447 T	29·72	143
D† ,, (Llandefaelog-fach) No. 2	Rev. W. Williams	5	1	0	660 T	37·26	204
D ,, (,, ,,) No. 3	,, ,, ,,	5	1	0	660 T	35·92	202
Hay (Gwernyfed Park)	Major Wood	5	1	0	375 ⅄	26·94	178
Llanwrtyd Wells (Dolecoed)	R. Campbell Davys, Esq.	5	1	0	700 T	61·58	206
D Llangammarch Wells	Dr. W. Black Jones	8	1	0	551 ⅄	40·68	198
D Builth (Tyn-y-berllan)	Dr. Baldock Fry	5	1	0	430 T	31·24	184
D† Abergwesyn Vicarage	Rev. J. Jones	5	1	0	904 ⅄	66·27	231
Brynwern Hall [Newbridge]	Rev. W. Clifton Mogg.	5	1	6	520 T	33·16	173
Llysdinam [,,]	Mrs. Lister Venables	5	1	3	640 T	35·74	205
RADNOR.							
Woodlands [Glasbury]	A. Battiscombe, Esq.	5	1	0	300 T	28·80	179
D Welfield [Builth]	E. A. Thomas, Esq.	5	1	10	740 T	29·93	177

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
RADNOR—(*con.*)							
D Caerwnon [Builth]	Com. A. Evan-Thomas.	5	1	0	530 T	31·94	209
Old Radnor (Evancoyd)	Mrs. Mynors	8	1	0	760 T	30·74	122
D Llandrindod	The Meteor. Council	5	1	0	711	35·43	180
D New Radnor (Ednol)	Mr. W. Jones	5	1	0	950	39·15	206
Llandegley (Gwern-i-Arglwydd)	Mr. J. Campbell	5	2	0	1000	31·78	185
D Pen-y-bont	Mr. J. Hamer	5	3	6	788	30·16	183
†Rhayader (Nant-y-car) M	G. M. Yourdi, Esq., CE	5	1	0	1545	80·29	...
D ,, (Tyrmynydd)	,, ,, ,,	5	1	0	832 ⊼	55·30	207
D† ,, (Nantgwillt) *old g.*	,, ,, ,,	5	1	0	768 ⊼	53·82	208
D† ,, (,,) *new g.*	,, ,, ,,	5	1	0	764 ⊼	56·49	207
† ,, (Bwlchyrhendre) M	,, ,, ,,	5	1	0	1585	58·60	...
† ,, (Claerwen)	,, ,, ,,	5	1	0	1250	53·90	...
D ,, (Pen-y-gareg)	,, ,, ,,	5	...		914 ⊼	45·11	220
† ,, (Pryddellau) M	,, ,, ,,	5	1	0	1710	56·25	...
D ,, (Craig Gôch)	,, ,, ,,	5	...		1072 ⊼	51·05	200
† ,, (Abergwngy)	,, ,, ,,	5	1	0	1200	57·20	...
Knighton (Ystrad House)	E.P.Fairbairn, Esq. C.E.	5	1	0	570 T	31·76	...
Llanbadarn Fynydd (Pen Ithon)	G. A. Haig, Esq.	8	0	5	1130	41·00	...
MONTGOMERY.							
†Llangurig (Esgair Clochfan) M	G. J. Symons, Esq., FRS	5	1	2	1330	46·40	...
† ,, (Ystrad-olwyn-fawr) M	,, ,, ,,	8	1	0	950	49·60	...
,, (,, ,, ,,) *new g.*	,, ,, ,,	5	1	0	950	48·20	...
D Llandinam (Plas Dinam)	late E. Davies, Esq.	5	4	0	504 T	33·40	191
D†Churchstoke (Mellington Hall)	P. Wright, Esq.	5	1	6	540 ⊼	27·46	176
† ,, (,, ,,)M	,, ,, ,,	5	1	6	540 ⊼	26·35	...
D Welshpool (Pool Quay Vic.)	Rev. R. J. Roberts	5	1	0	230 ⊼	26·06	189
Llangadfan	G. J. Symons, Esq., FRS	5	1	0	...	57·11	...
Garthbibio (Bwlch Tomlyd) M	,, ,, ,,	5	1	0	1370 T	101·00	...
Meifod (Tan-y-fron)	A. George, Esq.	5	1	0	310	31·11	...
D Lake Vyrnwy	E. D. Marten, Esq. C.E.	5	0	7	770 ⊼	60·15	210
FLINT.							
Caergwrle (Bryntirion)	Dr. W. A. Johnston	5	1	0	300 T	28·56	169
Hawarden	Gt. Central R. Co.	9	3	6	35	23·30	182
D†Flint (Soughton Hall, Northop)	J. Eldon Bankes, Esq.	5	1	0	418	30·23	191
Bodfari (Henblas)	Mrs. Scott Bankes	5	1	0	183 ⊼	24·20	...
St. Asaph (Nantllys)	P. P. Pennant, Esq.	5	1	0	173 ⊼	23·36	162
D†Halkyn	Capt. Williams	5	1	3	895 ⊼	29·38	183
Bagillt Lead Works	I. Roberts, Esq.	5	1	0	20	22·22	...
D Rhyl (Sedgley House)	W. T. Girdlestone, Esq.	5	2	6	21 ⊼	21·98	143
D Prestatyn (Edlestone House)	T. J. Scott, Esq.	5	0	6	30	24·66	124
DENBIGH.							
Llangadwaladr (Penygwely Res.)	G. W. Lacey, Esq.	5	1	0	1094	37·67	175
Llangollen (Plas Berwyn)	Col. Tottenham	5	0	5	440	35·50	158
Wrexham (Pack Saddle Res.)	F. Storr, Esq.	5	0	9	370 ⊼	29·41	178
,, (Cae Llwyd Res.)	,, ,,	8	0	9	918 ⊼	34·02	178

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
	DENBIGH—(*con.*)						
	Wrexham (Cae Llwyd Res.) ...	F. Storr, Esq.	5	0 9	918 ⅄	33·15	178
D	,, (Broughton).....	J. Hall, Esq.	5	1 0	500 T	30·83	195
	Gresford (Trewythen)	Miss Howell Evans ...	5	1 0	350	23·55	155
D	Rosset (Trevalyn Hall).....	Capt. Griffith Boscawen.	5	1 0	58 ⅄	23·22	172
	Nantglyn (Pant-y-maen)	W. Barker, Esq.	8	1 0	1320 T	51·77	...
D	Llangerniew (Hafodunos).....	Col. Sandbach	5	1 0	512 T	40·80	172
	Llanefydd (Rhyl W.W., S.)...M	L. G. Hall, Esq., C.E..	5	1 0	600	26·99	...
	,, (,, ,, W.)...M	,, ,, ,,	5	1 0	580	27·76	...
	,, (,, ,, E.)...M	,, ,, ,,	5	1 0	570	26·70	...
D	,, (Plas Uchaf Res.) ...	,, ,, ,,	5	1 0	485	25·98	130
D	Denbigh (Ystrad)	Miss E. V. Hughes ...	5	0 10	250	27·31	195
D	,, (Garn)	W. D. W. Griffith, Esq.	5	1 0	447 T	29·27	214
	Trefnant (Maes Elwy)	Major Birch	5	2 0	157 T	23·72	229
D	Colwyn Bay (Nant-y-Glyn) ..	A. O. Walker, Esq. ...	5	1 0	180 ⅄	30·84	184
D	,, (Ingleside)	Harold Smith, Esq. ...	8	1 0	75 ⅄	30·04	192
	,, (Bryn Euryn)	Mr. T. Hutchings	5	1 0	125 T	29·18	177
	MERIONETH.						
	†Dolgelly (Werngoch).....	Owen Hill, Esq.....	5	1 6	465 T	65·47	...
	,, (Dolmelynllyn)	The Meteor. Council ...	5	1 2	225	105·10	189
D	Llanbedr (Minafon)	H.G.Hollingworth, Esq.	5	1 2	33 ⅄	46·40	218
D	Bala (Eryl Arran).....	Mrs. Burton	8	1 0	590 T	53·51	207
D	Llanderfel (Palé Gardens)	Mr. T. Ruddy.....	8	1 0	606 ⅄	45·44	212
	Arenig (Bodrennig)	E. Jones, Esq.....	5	1 0	1100 T	74·79	163
D	Bl. Ffestiniog (Cwmorthin)	New Welsh Slate Co....	8	1 2	1060 T	126·92	247
D	Rhiwbryfdir = Oakley Quarries..	Mr. R. Roberts	5	10 0	1100	104·75	234
D	Corwen (Rhug Gardens)	Mr. J. Bennett	5	1 0	500	35·88	215
	CARNARVON.						
D	*Llanystumdwy (Talarvor)	Dr. J. Roberts	5	2 0	49 T	40·86	146
	Llandwrog (Glynllivan Park) ...	Hon. F. G. Wynn.....	5	1 0	100	44·43	...
	,, (,, Garden) ...	,, ,,	5	1 0	170	47·77	...
	,, (,, Fort)	,, ,,	8	1 0	180	42·22	...
	,, (Bodfean)	,, ,,	5	1 6	80	43·90	...
D	Bettws-y-coed (Aberllyn).....	Messrs Brunner Mond & Co	5	5 6	674 ⅄	72·66	180
D	Llanberis (Glyn Padarn)	Major Allen	6	6 0	370	60·24	188
	Capel Curig (Lake Cowlyd)	T. B. Farrington, Esq.	8	1 3	1168 ⅄	58·50	...
	Carnarvon (Belan Fort).....	Hon. F. G. Wynn.....	5	1 0	15	39·28	...
D	Llanbedr-y-Cennin (Plasdulyn).	E.P.Stephenson Esq. C.E	8	1 0	509 ⅄	49·68	159
D	,, ,, ,, (Llyndulyn)	,, ,, ,,	8	1 6	1622 T	62·45	179
D	Llanfairfechan	Mr. W. Timmins	5	1 0	...	39·19	193
D	†Llandudno	Mr. W. Little.....	5	1 0	70 T	31·27	191
	ANGLESEA.						
	Llandwyn Island	Hon. F. G. Wynn	5	1 0	40	23·68	...
D	Llangadwaladr (Bodorgan)	Mr. W. Pilgrim.....	8	1 0	...	39·96	197
	Penmynydd Vicarage	Rev. H. D. Owen	5	5 0	300	38·94	211
	Holyhead	The Meteor. Council ...	8	...	...	31·71	205

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground.	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
ANGLESEA—(*con.*)						
LlanerchymeddLlwydiarthEsgob	T. Prichard, Esq.	5	1 0	112 L	35·48	212
D Lligwy	Rt. Hon. Lord Boston..	5	1 0	180	36·12	176
ISLE OF MAN.						
Castletown (Langness)	Bd. of Northern Lights	...	...	...	31·16	104
Derbyhaven	A. W. Moore, Esq.....	5	1 0	20	30·43	...
Santon Vicarage	,, ,, ,, ...	...	...	250	34·39	176
D Douglas (Woodville)	H. Story, Esq.	8	0 9	160 L	37·44	208
,, (Elsinore)	A. W. Moore, Esq. ...	...	...	...	36·76	...
,, (Cronkbourne)	,, ,, ,, ...	8	0 10	138 T	38·49	205
,, (Clypse, Onchan)	,, ,, ,, ...	8	1 0	439 T	38·34	214
Bishops Court...	,, ,, ,, ...	...	...	80	34·99	...
Ramsey	,, ,, ,, ...	8	1 3	18	34·73	...
Point of Ayre.....	Bd. of Northern Lights	...	...	...	21·93	118
ISLES OF SCILLY.						
St. Mary's	The Meteor. Council ...	8	1 6	77 L	27·13	198
†Tresco Abbey	T. A. D. Smith, Esq...	11	3 0	40	27·13	192
JERSEY.						
D St. Helier (St. Louis Observatory)	Rev. M. Dechevrens ...	8	5 0	180	27·21	162
St. Aubins	The Meteor. Council ...	8	1 0	...	30·02	204
GUERNSEY.						
D St. Martin's (Les Blanches)	B. T. Rowswell, Esq....	5	1 0	310 T	32·86	198
D L'Erée (Claire Mare)	J. J. Carey, Esq.	5	1 0	48 L	27·59	149
D St. Peter Port (Beaulieu)	A. Collenette, Esq. ...	5	1 0	190 L	34·36	181
D ,, ,, (Villa Carey).....	Dr. Carey	8	1 2	180	30·20	190
,, ,, (,, ,,)... M	,, ,, ...	5	1 2	180	29·91	...
D L'Ancresse	A. Collenette, Esq.....	5	1 0	33 T	27·56	136

SCOTLAND.

DIVISION XII.—SOUTHERN COUNTIES.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above SeaLevel	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	WIGTON.						
	Mull of Galloway	Bd. of Northern Lights	...	...	...	25·69	137
D	Whithorn (Cutroach)	J. G. Martin, Esq.	5	0 6	120	34·56	167
D	Garliestown (Galloway Ho.)	Mr. J. Day	5	4 6	20 ?	37·56	154
D	Stoneykirk (Ardwell House)	Sir M.J.Stewart,Bt.MP	8	3 9	107 T	28·32	168
	Loch Ryan	Bd. of Northern Lights	...	...	...	31·41	143
	Corsewall	,, ,, ,, ...	...	3 4	22 ?	34·27	167
	KIRKCUDBRIGHT.						
	Little Ross	Bd. of Northern Lights	...	3 3	130 ?	31·81	128
	Kirkcudbright (Balmae)	Countess of Selkirk	5	0 8	150	28·93	...
D	,, (Senwick)	A. J. Corrie, Esq.	5	1 0	113 T	36·50	206
	,, (,,) M	,, ,, ,, ...	5	1 0	113 T	35·89	...
	Auchencairn (Torr House)	W. Ovens, Esq.	5	0 8	50	46·86	...
	Dalbeattie (Colvend Manse)	Rev. Dr. Fraser	5	1 6	120 T	42·47	...
	Gatehouse (Cally)	Dr. Buchan, F.R.S.	5	1 0	120	47·11	180
	Dalbeattie (Little Richorn)	Mr. W. Kerr	5	0 6	35 L	41·09	190
	Creetown (Cassencary)	JAHenryson-Caird, Esq	5	0 8	40	38·25	...
D	Kirkpatrick Durham (Glenlair)	Major Maxwell	5	0 8	250 T	44·38	132
D	Cargen [Dumfries]	R. F. Dudgeon, Esq.	5	1 0	80 T	49·12	158
D	New Galloway (Glenlee)	Mr. W. Melville	5	1 3	208	54·52	232
D	Dalry (Glendarroch)	J. Barbour, Esq.	5	0 11	192 T	51·39	180
D	,, (The Old Garroch)	T. R. Bruce, Esq.	8	6 0	450	57·70	207
	Irongray (Drum Park) ...*new g.*	D. J. Kay, Esq.	5	1 0	230	49·12	...
	Glenhead of Trool	Mr. J. McMillan	5	0 11	320	64·20	...
	Carsphairn(Holm of Dalquhairn)	Miss McMillan	5	1 2	800	68·55	...
	DUMFRIES.						
D	Dumfries (Ivy Bank)	Rev. W. Andson	5	0 10	70 T	33·71	206
	Canobie (Byreburnfoot)	Mr. D. Crabbe	3	...	...	41·50	...
D	Lochmaben (Esthwaite)	W. J. Halliday, Esq.	5	1 0	166 B	35·88	185
	Langholm (Westwater)	J. M. Elliot, Esq.	3	0 9	450	54·57	...
D	,, (Drove Road)	Mr. W. Jackson	5	0 9	270	52·37	186
	Moniaive (Glencrosh)	Miss M. R. McMillan	5	1 2	350	51·35	220

DIVISION XII.—SOUTHERN COUNTIES (*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above SeaLevel	Depth of Rain. 1898	Days on which ·01 or more fell
			ft. in.	feet.	inches.	
DUMFRIES—(*con.*)						
D Moniaive (Maxwelton House) ...	Rev. Sir E. Laurie, Bt.	8	1 2	400 ⅄	43·46	204
Langholm (Ewes School)	Mr. J. C. Lyall	3	1 0	445 T	55·15	...
,, (,, Burnfoot)	J. C. Little, Esq.	3	1 0	541 ⅄	55·66	...
Durrisdeer(DrumlanrigGardens)	Mr. D. Inglis	9	0 9	191	39·65	...
Moffat (Craigielands).....	Mr. L. Frazer.....	5	0 9	360 T	49·50	...
D ,, (Auchen Castle).....	Mr. W. McAdam	5	0 6	500	58·12	246
,, (Ericstane).....	J. J. Welsh, Esq.	3	0 6	580 T	50·80	...
ROXBURGH.						
D Hawick (Branxholme)	J. G. Winning, Esq.....	5	0 6	457 ⅄	30·90	180
,, (Ladylaw)	T. Wilson, Esq.....	5	0 10	448	28·15	185
D*Jedburgh (Sunnyside)	S. Hilson, Esq.	5	6 0	351 ⅄	23·02	117
D ,, (Ancrum Bridge).....	A. Johnston, Esq.	5	2 0	229	21·99	162
D Lilliesleaf (Riddell)	Gen. Sprot	5	0 8	550 T	24·79	192
D ,, (,,)	Mr. J. Williamson.....	5	0 8	500 T	25·71	166
D St. Boswell's (Elliston).....	The Hon. G. Dalrymple	5	1 0	352	22·61	171
Kelso (Springwood Park)	Mr. W. Chaplin.....	10	1 0	130 L	19·77	118
,, (Broomlands)	Dr. Buchan, F.R.S. ...	...	...	205	23·78	137
D Melrose (Asylum).....*old g.*	Mr. Pattman	5	0 6	480 T	25·95	186
,, (,,) .....*new g.*	,, ,, ...	5	1 0	480 T	25·11	186
Wooplaw [Galashiels]	J. Murray, Esq.....	5	1 0	880 ⅄	29·51	172

DIVISION XIII.—SOUTH EASTERN COUNTIES.

SELKIRK.						
D Selkirk (The Hangingshaw) ...	Miss Johnstone	5	0 6	670 T	31·61	142
D Galashiels (Abbotsford Rd.).....	Dr. Somerville	5	0 6	416 T	27·54	187
,, (Stantling Craigs) ...	Mr. W. Ross	12	1 3	800	32·27	...
PEEBLES.						
Innerleithen (The Glen)	Dr. Buchan, F.R.S. ...	...	...	...	39·40	...
,, (Leithen Lodge) ...	Mr. D. Clark	11	0 0	700 T	43·54	...
Peebles (Swinton Bank)	C. A. Ainslie, Esq.....	5	0 6	600	35·14	...
Kirkurd (Castle Craig).....	Dr. Buchan, F.R.S. ...	...	...	830	32·78	180
Eddlestone (Portmore Res.)	W. Anderson, Esq.....	11	0 6	1000	33·70	188
D N. Esk Reservoir [Penicuick] ...	Mr. W. Tod	11	0 6	1150 ⅄	45·55	183
BERWICK.						
D Earlston (Cowdenknowes)	Mr. J. Robertson	5	0 10	360	26·17	151
D Coldstream (The Hirsel)...*new g.*	Mr. Cairns	5	1 0	94 ⅄	21·55	181
Marchmont House	Mr. J. A. Wood.....	5	1 0	500 T	28·32	192
D Dunse Castle	Mr. R. Aikman	5	1 0	500	28·57	141
West Foulden	H. H. Craw, Esq.	5	1 0	250 T	19·24	...
Longformacus (Rawburn).....	,, ,, ,, ...	3	0 6	920 T	31·61	...
St. Abb's Head	Bd. of Northern Lights	...	0 4	211	18·57	111

DIVISION XIII.—SOUTH EASTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	HADDINGTON.						
D	Drummore [Musselburgh]	Mr. J. Robson	5	0 8	75 T	22·12	172
D	Whittinghame Gardens	Mr. J. Garrett	5	1 0	348 B	27·37	131
D	Haddington (Asylum)	J. Mowat, Esq.	5	1 0	237 T	25·11	202
	Prestonkirk (Smeaton)	Dr. Buchan, F.R.S.	...	...	100	24·06	...
	Aberlady	,, ,, ,,	...	...	...	23·99	...
	North Berwick Reservoir	Mr. J. McKellar	11	1 6	150 T	26·05	...
	,, ,, (Fidra)	Bd. of Northern Lights	...	...	...	19·78	...
	EDINBURGH.						
	Stow (Burnhouse)	W. R. Ovens, Esq.	5	0 6	700	36·29	...
	Moorfoot Hills (Bowbate)	W. Anderson, Esq.	11	0 6	1250	46·70	...
	,, ,, (Gladhouse Res.)	,, ,, ,,	11	0 6	900	32·65	186
	,, ,, (Rosebery)	,, ,, ,,	11	0 6	750	28·80	...
	Pentland Hills (Crosswood)	,, ,, ,,	11	0 6	950	46·19	...
	Penicuick (Edgelaw Res.)	,, ,, ,,	11	0 6	654	28·74	...
	Pentland Hills (Harper rig)	,, ,, ,,	11	0 6	900	40·90	...
	,, ,, (Harehill)	,, ,, ,,	11	0 6	1470	41·18	...
	,, ,, (Loganlea)	,, ,, ,,	11	0 6	850	37·58	...
	West Calder (Addiewell)	J. Fyfe, Esq.	5	0 6	600	34·46	...
	Rosewell Asylum	Dr. Buchan, F.R.S.	...	...	690	28·46	200
	Pentland Hills (Swanston)	W. Anderson, Esq.	11	0 6	550	24·35	...
	,, ,, (Glencorse Res.)	,, ,, ,,	11	0 6	787	36·20	156
	,, ,, (Harlaw)	,, ,, ,,	11	0 6	800	32·59	...
	,, ,, (Clubbiedean Res)	,, ,, ,,	11	0 6	750	31·32	...
	,, ,, (Harbour Hill)	,, ,, ,,	11	0 6	1112	44·89	...
D	Dalmahoy	Countess D. of Morton	5	0 10	358	30·97	168
	Liberton (Alnwick Hill)	W. Anderson, Esq.	11	0 6	400	26·02	168
D	,, (R. Obs. Blackford Hill)	Dr. Copeland	8	1 0	442 ⊼	22·29	141
	,, (,, ,, ,, ,,)	,, ,,	5	25 0	460	10·86	...
	Portobello (Joppa)	R. C. Mossman, Esq.	...	...	12	24·31	...
D	Edinburgh (Blacket Place)	,, ,, ,,	8	0 8	252 T	25·23	181
	,, (Charlotte Square)	Messrs. Leslie & Reid	11	0 6	230	24·34	...
	,, (,, ,,)	,, ,, ,,	12	63 0	300	19·71	...
D	,, (City Observatory)	W. Peck, Esq.	8	0 10	349	22·03	155
D	,, (Royal Botanic Garden)	Mr. A. D. Richardson	8	1 0	74 ⊼	24·42	187
	Leith	The Meteor. Council	8	1 8	22	19·86	159
	,, (Navigation School)	Dr. Buchan, F.R.S.	5	0 5	70	23·54	176
	Davidsons Mains (Broomfield)	Mr. Comfort	...	...	...	21·25	...
	LINLITHGOW.						
	Whitburn (Polkemmet)	Lady Baillie	5	2 0	600 T	45·28	223
	Uphall	J. Fyfe, Esq.	5	0 9	380	30·95	...
	Carribber Reservoir M	J. Bawne, Esq.	5	0 7	330 T	35·20	...
D	Linlithgow (Nether Parkley)	W. H. Henderson, Esq.	5	0 3	290 T	35·11	190

DIVISION XIV.—SOUTH WESTERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
LANARK.						
D Biggar (Cambus Wallace)	Captain Paul	6	0 6	748 ⊼	31·48	177
D Cleghorn	W. Eliott Lockhart, Esq.	3	0 3	720	38·20	210
D Carluke (Mauldslie Castle)	Mr. W. H. Gorrie	5	1 0	140	35·13	182
D Dalzell House	Rt. Hon. Lord Hamilton	6	5 6	89 ⊺	33·59	177
Hamilton Water Works	Mr. R. Watson	7	1 0	436 ⊺	37·00	...
D ,, (Ardenclutha)	Rev. T. M. B. Paterson	5	1 9	260 ⊺	36·83	191
Bothwell Castle	Mr. W. F. B. Archibald	10	18 0	146 ⊺	33·41	138
Uddingston (View Park)	J. Addie, Esq.	5	1 6	180	33·13	...
Glasgow (Tollcross Park)	J. Whitton, Esq.	...	...	...	38·64	...
,, (Green Park)	,, ,, ,,	5	0 6	35	34·61	...
,, (Bellahouston Park)	,, ,, ,,	...	...	...	33·68	...
,, (Alexandra Park)	,, ,, ,,	5	0 6	141	35·15	...
,, (Kelvin Grove Park)	,, ,, ,,	5	0 6	48	36·26	...
,, (Belvedere Hospital)	Dr. Buchan, F.R.S.	...	...	54	38·55	208
,, Observatory	J. Connell, Esq.	11	2 0	182	37·41	213
,, (Springburn Park)	J. Whitton, Esq.	5	0 6	361	36·18	...
D Airdrie (Hillend Reservoir)	Mr. W. A. Ritchie	6	4 6	620 ⊼	41·09	208
AYR.						
Ballantrae (Glendrishaig)	P. Murdoch, Esq.	5	1 0	42	33·61	180
Barrhill (Dochroyle) M	Mr. J. Scott	6	0 6	548 ⊺	49·09	...
D Colmonell (Clachanton)	R. Aitken, Esq.	6	0 6	140 ⊺	41·88	188
D Girvan (Pinmore)	Capt. Hamilton	5	1 0	187 ⊼	44·98	202
D Barr Manse	Rev. G. Dods	5	1 0	330	49·70	213
Loch Finlas	J. Eaglesham, Esq., C.E.	5	2 0	849	51·37	...
Girvan (Turnberry)	Bd. of Northern Lights	...	...	...	41·55	148
D Dalmellington (Benquhat)	A. Gillespie, Esq.	...	1 6	1068	51·74	219
Maybole (Culzean Gardens)	Mr. D. Murray	9	3 0	200	36·45	167
D ,, (Sauchrie)	E. A. Miller, Esq.	5	1 0	382 ⊺	45·86	218
Muirkirk (Glenbuck)	Mr. W. F. Hamilton	6	1 0	900	54·35	...
Kilmarnock (North Craig)	R. Blackwood, Esq.	12	1 0	319 ⊼	46·10	...
Paisley W. W. (Camphill)	J. W. Moncur, Esq. C.E.	12	1 6	611	64·80	...
Shaws W. Works (Kelly Dam)	R. Gilmour, Esq., C.E.	6	1 0	640 ?	69·10	...
,, ,, (Knockencorsan)	,, ,, ,,	6	1 0	1040	70·30	...
RENFREW.						
Lochwinnoch (Garthland)	H. Macdowall, Esq.	5	0 11	150	69·96	140
Gorbals's Dist. Ryat Lynn	J. M. Gale, Esq., C.E.	8	0 5	310	52·70	...
Gorbals's Dist. Waulk Glen	,, ,, ,,	12	0 5	280	51·00	...
Gorbals's Dist. Middleton	,, ,, ,,	12	0 5	550	63·85	...
Gorbals's Dist. Nether Cairn	,, ,, ,,	12	0 5	700	55·55	...
Paisley W. Works Stanely	J. W. Moncur, Esq., C.E.	12	1 0	190	44·11	...
Paisley W. Works Back Thornleymuir	,, ,,	12	1 0	646	59·02	...
Paisley W. Works Muirhead	,, ,,	12	1 0	482 ⊼	55·01	...
Paisley W. Works Springside	,, ,,	12	1 0	532 ⊼	57·32	...
D Glasgow (Queen's Park)	J. Whitton, Esq.	8	0 9	144 ⊼	38·44	153
,, (Maxwell Park)	,, ,, ,,	5	0 6	69	39·41	...

DIVISION XIV.—SOUTH WESTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell.
				ft. in.	feet.	inches.	
	RENFREW—(*con.*)						
	Paisley (Crookston)	Major Hotchkis	3	0 5	...	37·50	145
Shaws Water Works.	Duchall Moor	R. Gilmour, Esq., C.E.	6	1 0	1150	71·60	...
	Creuch Hill	,, ,, ,,	6	1 0	1100	66·50	...
	Largs Road	,, ,, ,,	5	1 0	910	62·98	...
	Green Water	,, ,, ,,	6	1 0	788 ⅄	76·40	...
	Gryfe Reservoir	,, ,, ,,	6	1 0	640 ⅄	71·70	190
	Mansfield	,, ,, ,,	5	1 0	573 ⅄	67·21	253
	Compensation Reservoir	,, ,, ,,	5	1 0	600	63·71	269
	Loch Thom	,, ,, ,,	5	1 0	643 ⅄	68·79	269
	Shielhill	,, ,, ,,	6	1 0	962 ⅄	69·10	...
	Darndaff Moor	,, ,, ,,	6	1 0	850	77·20	...
	Spango Burn	,, ,, ,,	6	0 9	757 ⅄	66·50	...
	Hole Glen	,, ,, ,,	5	1 0	603	68·10	267
	New Yetts Dam	,, ,, ,,	5	1 0	800	68·39	267
D	Prospect Hill	,, ,, ,,	5	1 0	233	68·45	228

DIVISION XV.—WEST MIDLAND COUNTIES.

	DUMBARTON.						
D	Dumbarton (Leven Shipyard)	Messrs. Denny, Bros.	5	1 0	9 ⊺	46·71	252
	Helensburgh (Fernigair)	J. R. Wilson, Esq.	...	0 6	18	53·98	222
D	,, (Water Works)	,, ,, ,,	...	0 6	300	47·52	222
	Arrochar	Rev. J. Dewar	5	0 9	12	74·02	...
	STIRLING.						
	Strathblane (Mugdock Reservoir)	J. M. Gale, Esq., C.E.	8	0 6	320	50·10	...
D	,, (Craigend Castle)	Sir J. Buchanan, Bart.	5	0 9	543 ⊺	62·33	243
	Banton by Bonnybridge Craigdouffie	J. J. Cadell, Esq.	5	0 6	715	62·13	...
	Falkirk (Kerse)	C. Brown, Esq.	8	1 0	18	35·40	...
	,, (,,) *new g.*	,, ,,	5	0 10	18	36·20	...
	Larbert (Carron Park)	J. J. Cadell, Esq.	5	0 4	80	36·49	...
	Little Denny Reservoir	C. Massie, Esq.	8	2 0	315 ⅄	36·27	...
	,, ,, Filters	,, ,,	8	2 0	240	39·48	...
	Earlsburn Reservoir	,, ,,	8	2 0	1205 ⅄	53·14	...
	St. Ninians (Faughlin)	,, ,,	8	2 0	713 ⅄	43·40	...
	Stirling (Touch Reservoir)	Col. J. S. Stirling	...	...	760	42·45	...
	,, (Polmaise Gardens)	Mr. W. W. Ritchie	6	1 3	12	34·30	...
	,, (Victoria Place)	R. Kidston, Esq.	5	2 10	100	34·92	...
D	Buchlyvie (The Manse)	Rev. J. A. Macdonald	5	1 3	118 ⊺	57·08	249
	Gargunnock	Col. J. S. Stirling	5	5 8	85 ⊺	43·63	...
	Kippen (Arngomery)	,, ,, ,,	...	...	...	51·74	...
	,, (Garden House)	,, ,, ,,	...	...	...	52·32	...
	Ben Lomond	J. M. Gale, Esq. C.E.	...	...	1800	94·30	...
	Glengyle	,, ,, ,,	...	...	380	112·20	...
	BUTE.						
	Arran (Pladda)	Bd. of Northern Lights	...	...	...	41·60	141
	Holy Island (Lamlash)	,, ,, ,,	...	...	...	58·40	163

DIVISION XV.—WEST MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain 1898	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	BUTE—(*con.*)						
	Kingarth (Plan)	H. Hastings, Esq.	5	1 0	...	44·98	...
D	Rothesay (Barone Cottage)	J. Kay, Esq.	5	1 0	116 ⅄	46·58	228
D	,, (Crichton Road)	H. Lauder, Esq.	5	4 0	97	49·33	227
	ARGYLL—(MAINLAND.)						
D	Tighnabruaich	A. S. Cousland, Esq.	5	4 0	30	61·34	219
D	,,	,, ,, ,,	12	5 0	50	64·87	219
D	Loch Eck (Benmore)	H. J. Younger, Esq.	5	1 0	40	98·32	238
D	Lochgilphead (Poltalloch)	Mr. D. S. Melville	3	4 6	135	58·48	224
D	Inverary Castle	Mr. G. Taylor	5	1 0	40	*95·33*	252
D	,, (Newtown)	Mrs. Little	5	1 0	17	85·65	264
	Oban (Loch-na-gleann-na-brathrach)	Dr. Baily	11	1 2	370	66·21	...
	Appin (Airds) M	Dr. Buchan, F.R.S.	5	0 11	41 ⅄	64·91	129
D	Morvern (Drimnin)	Mrs. Gordon	5	1 0	225	72·78	262
D	Ballachulish (Ardsheal)	Dr. W. D. Anderson	8	1 0	103 T	86·14	253
	,, (Craigrannoch)	D. Campbell, Esq., M.D.	8	1 0	15	103·45	253
D	Strontian (Laudale)	A. Fletcher, Esq.	8	1 0	15 ⅄	78·64	272
	Loch Sunart (Glenborrodale)	C. D. Rudd, Esq.	5	0 2	60 L	72·50	191
	Ardnamurchan	Bd. of Northern Lights	...	3 6	28 ?	52·51	220
	Loch Eil (Corran)	,, ,, ,,	...	0 4	14 ?	106·20	217
D	,, ,, (Conaglen)	Countess D. of Morton	5	0 10	36	118·11	231
	ARGYLL—(INSULAR.)						
	Kintyre, Mull of	Bd. of Northern Lights	...	...	279 ?	41·76	146
	,, (Campbeltown, Devaar)	,, ,, ,,	...	3 4	75 ?	51·96	204
	,, (Skipness Castle)	Mr. P. McLean	5	1 6	27	54·13	...
	,, (Stonefield, Tarbert)	Colin G. Campbell, Esq	5	0 9	90	82·56	251
D	Gigha	A. Hugh Douglas, Esq.	5	1 6	40	39·39	240
D	Islay (Ardbeg)	C. Hay, Esq.	5	7 0	46 T	50·05	168
	,, (Rhinns)	Bd. of Northern Lights	...	3 0	74 ?	39·32	181
	,, (Lochindaul)	,, ,,	...	...	...	47·40	180
	,, (McArthurshead)	,, ,,	...	...	...	42·76	237
D	,, (Eallabus)	J. Forbes, Esq.	5	1 0	68 T	51·80	181
	Jura (Bay of Small Isles)	H. Evans, Esq.	...	...	80	73·70	...
	,, (Fladda)	Bd. of Northern Lights	...	...	...	77·47	224
	,, (Ardfin)	Miss J. H. Campbell	5	0 6	130	64·66	...
	Lismore (Mousedale)	Bd. of Northern Lights	...	3 4	37 ?	48·27	199
	Mull (Lochbuie)	Dr. Buchan, F.R.S.	...	...	20	90·62	187
D	,, (Quinish)	J. N. Forsyth, Esq.	5	1 6	35	62·15	245
	,, (Sound of)	Bd. of Northern Lights	...	...	...	79·36	216

DIVISION XVI.—EAST MIDLAND COUNTIES.

	CLACKMANNAN.							
	Alloa (Mar Street)	J. Melville, Esq.	5	0	6	70	33·43	...
	Alva House	Miss Johnston	5	1	2	180	38·88	...
D	Dollar	Mr. A. Blackwood	9	1	0	178	45·81	169

DIVISION XVI.—EAST MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
KINROSS.						
Blairingone [Dollar]	Rev. J. F. Cameron	5	1 6	300 T	41·76	193
Cleish Castle	Dr. Buchan, F.R.S.	...	...	...	40·54	...
Loch Leven Sluice	Mr. W. Clark	7	0 7	360 L	37·60	...
D Kinross (Gellybank)	G. Henderson, Esq.	5	0 6	440 ⅄	33·42	200
FIFE.						
Inchkeith	Bd. of Northern Lights	...	...	...	20·79	...
D Culross (Westgrange)	J. J. Dalgleish, Esq.	5	0 2	116 ⅄	37·21	197
D Dunfermline (Keavil)	L. Dalgleish, Esq.	5	0 2	150	25·76	183
Carnock (Luscar House) ...No. 1	A. Mitchell, Esq.	5	0 10	430 T	34·52	...
,, (,, ,,) ...No. 2	,, ,,	5	0 10	430 T	34·59	...
,, (Craigluscar)	A. W. Bell, Esq., C.E.	12	0 4	280 ⅄	36·00	...
D Beath (Outh)	L. Dalgleish, Esq.	5	0 2	890	37·85	113
Isle of May	Bd. of Northern Lights	...	...	...	16·24	...
Kilconquhar (Balcarres)	Mr. E. Tate	5	1 0	300 T	29·32	188
D Carnbee (Ovenstone W.W.)	A. Watson, Esq.	5	1 0	168 T	23·63	153
Leslie (Lothrie Reservoir)	Dr. Buchan, F.R.S.	...	...	...	35·98	...
Strathmiglo	F. Troup, Esq., M.D.	5	1 0	200 T	33·80	166
D Cupar (Fife & Kinross Asylum)	Dr. Turnbull	5	0 4	210	29·93	142
Kilmany (Mountquhanie House)	D. Gillespie, Esq.	3	1 3	240	28·40	211
Balmerino	Col. F. J. Stuart Gray	5	1 3	60 T	27·38	182
Tayport (Low Light)	G.C.Buchanan,Esq.,CE	5	1 0	27	23·62	131
PERTH.						
Aberfoyle	J. M. Gale, Esq., C.E.	8	0 6	60	62·70	...
Ochtertyre [Stirling]	Capt. Dundas, R.N.	5	1 0	18	43·29	...
Dunblane (Kippenross)	Col. P. Stirling	3	1 3	150 ⅄	42·80	...
,, (Kippendavie Lodge)	,, ,,	8	2 9	400	43·27	...
D Doune (Gartincaber)	G. Burn Murdoch, Esq.	5	1 0	200 T	44·62	225
Sheriffmuir (Lynns Farm)	Col. P. Stirling	...	1 0	680	42·80	...
Glendevon (Glensherup)	A. W. Bell, Esq., C.E.	...	0 4	745 T	68·15	...
Loch Dhu	J. M. Gale, Esq., C.E.	8	0 6	325	85·20	...
Ledard	,, ,, ,,	...	...	1500	61·65	...
Loch Drunkie	,, ,, ,,	8	0 6	420	70·40	...
,, Vennachar	,, ,, ,,	8	0 6	275	54·90	...
D Lanrick Castle	Mr. J. Begg	3	1 0	...	54·85	173
Bridge of Turk	J. M. Gale, Esq., C.E.	8	0 6	275	65·95	...
Loch Katrine (Tunnel Hill Top)	,, ,, ,,	8	0 6	830	88·60	...
Between Glen Finlas & Ben Ledi	,, ,, ,,	8	0 6	1800	47·05	...
Callander (The Gart)	C. Douglas, Esq.	5	0 7	250	62·09	...
,, (Leny)	J. B. Hamilton, Esq.	3	0 4	345 T	59·45	...
Abernethy	Dr. Buchan, F.R.S.	...	...	...	35·43	...
Balquhidder (Blaircreach)	J. Carnegie, Esq.	5	...	460	100·06	...
D ,, (Stronvar)	,, ,, ,,	6	1 0	422 T	83·95	256
Lochearnhead (Ardvorlich)	Col. Stewart	5	1 0	321	69·05	...
D Crieff (Ochtertyre)	Mr. G. Croucher	5	2 6	326 T	39·70	206
Perth (Kinfauns Castle)	Col. F. J. Stuart Gray	5	16 0	150 T	28·25	163
,, (,, ,, Garden)	,, ,, ,,	5	1 3	...	29·72	169

DIVISION XVI.—EAST MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell
			ft. in.	feet.	inches.	
PERTH—(*con*).						
Perth (Rosebank)	Dr. Buchan, F.R.S.	...	...	140	33·90	154
,, (Huntingtower Field)	Mr. A. Bayne	6	1 0	40	29·80	...
Killin (Auchmore)	Mr. J. Cant	...	1 0	400 T	66·11	...
D Coupar Angus Station	Mr. J. Robertson	5	1 3	183 T	27·86	168
D Dunkeld (Inverbraan)	Rev. Canon Murdoch	5	1 0	500	35·47	110
Pitlochry (Donavourd)	W. Maxwell, Esq.	6	0 7	400	35·20	...
,, (Fasganevin)	late T. Renny, Esq.	5	1 0	300 T	35·89	...
D Blair-Atholl	Mr. A. Cameron	5	1 0	420	34·36	196
FORFAR.						
Buddonness (Low Light)	G.C.Buchanan,Esq., CE	5	1 0	17	24·31	140
D Dundee (Harbour)	,, ,, ,,	5	0 10	14	27·24	168
D Broughty Ferry (Douglas Ho.)	Mr. K. Graham	5	5 6	60 ⇈	26·49	143
,, ,, (Corona Gardens)	Mr. J. Machar	5	4 6	96	27·39	144
D Dundee (Eastern Necropolis)	Mr. J. Carnochan	3	0 4	199 T	26·50	122
D ,, (,, ,,) *new*	,, ,, ,,	5	0 4	199 T	27·00	178
,, (Dens Works)	Messrs. Baxter Bros.	5	...	119 T	26·70	161
,, (Westgreen House)	Dr. Rorie	...	...	...	28·39	...
D ,, (Camperdown Works)	Messrs. Cox Bros.	5	3 8	290	21·72	105
Liff	Col. F. J Stuart Gray	5	1 3	260 T	30·33	175
D†Craigton	G. Baxter, Esq., C.E.	8	1 0	481	?40·88	142
† ,, M	,, ,,	11	3 0	481	33·77	...
†Crombie Reservoir M	,, ,,	11	3 0	522 T	31·23	...
D Arbroath (Waterworks)	W. Stewart, Esq., C.E.	5	0 11	58 ⇈	20·45	141
,, (,,) M	,, ,, ,,	5	1 0	58 ⇈	21·39	...
D ,, (,,) *Tower*	,, ,, ,,	5	48 0	157 ⇈	12·98	122
,, (,,) ,, M	,, ,, ,,	5	48 0	157 ⇈	12·29	...
D ,, (Dishland Hill)	Mr. J. Campbell	5	0 11	69	18·67	161
D Inverarity Manse	Rev. P. Stevenson	5	1 0	301 T	31·54	143
Glamis Castle	Mr. T. Wilson	5	1 6	250	28·70	136
Kirriemuir (Lintrathen)	G. Baxter, Esq., C.E.	8	1 0	700	32·20	...
D ,, (,, Balnakeilly)	,, ,, ,,	8	1 0	700	33·28	173
,, (,, ,,) M	,, ,, ,,	8	1 0	700	31·55	...
,, (,, CreichHill) M	,, ,, ,,	8	1 0	1500	30·80	...
,, (,, Longdrum)	,, ,, ,,	8	1 0	1142	33·80	...
,, (,, Glen Dye)	,, ,, ,,	8	1 0	1409	38·20	...
,, (,, Barney)	,, ,, ,,	8	1 0	1145	40·60	...
,, (,, Glen Damff)	,, ,, ,,	8	1 0	1480	38·80	...
D ,, (Lednathie)	Mr. W. Morrison	5	1 0	720	41·53	184
Montroseness	Bd. of Northern Lights	...	...	...	20·66	...
Montrose (Melville Gardens)	Mr. J. R. Findlay	5	9 0	23 T	22·10	...
D ,, (Sunnyside Asylum)	Dr. J. G. Havelock	5	0 10	200	26·91	130
D ,, (Kinnaber W.W.)	Mr. J. R. Findlay	5	1 0	38 T	25·83	151
Brechin (Stracathro Gardens)	RtHonJACampbell,MP	5	1 0	240 T	31·00	...

DIVISION XVII.—NORTH EASTERN COUNTIES.

KINCARDINE.						
Johnshaven (Brotherton)	Mrs. Scott	5	1 0	...	24·14	195
Laurencekirk (Johnstone Lodge)	Dr. Buchan, F.R.S.	...	...	...	32·77	...

DIVISION XVII.—NORTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height above Ground.	Rain Gauge. Height above Sea Level	Depth of Rain. 1898	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
KINCARDINE—(*con.*)						
Fettercairn (The Burn) *Garden* M	Col. C. McInroy, C.B...	5	0 6	245	33·75	...
D ,, (,, ,,) *House* ...	,, ,, ,,	5	0 11	250	33·42	189
,, Manse	Rev. W. Anderson ...	5	0 0	230 T	32·97	...
D Banchory (Invercannie)	W. Dyack, Esq., C.E..	12	0 10	205	32·29	215
Girdleness	Bd. of Northern Lights	...	...	...	23·21	144
ABERDEEN.						
D†Braemar	J. Aitken, Esq.	8	0 9	1114 T	36·53	216
D Forest of Glen Tana	Sir W. C. Brooks, Bt..	5	1 0	576 T	34·20	101
D Cromar (Logie Coldstone Manse).	Rev. Dr. Davidson.....	5	1 0	694 ⅄	29·04	175
,, (,, ,, Loanhead)	Mr. A. Farquharson ...	5	1 0	743 ⅄	30·15	181
,, (Tillypronie).....	Mr. R. Littlejohn	5	4 0	1120 ⅄	33·90	209
D Aberdeen (Cranford).....	D. McHardy, Esq. ...	5	1 0	120 T	30·25	219
,, (Duthie Park)	Dr. Buchan, F.R.S. ...	...	...	44	28·70	188
,, (King's College)	The Meteor. Council ...	8	2 0	48	27·53	210
Ellon (Mains of Waterton)	T. F. Jamieson, Esq....	5	1 0	100	28·86	...
,, (Kermuck)	Mr. T. Mair	11	0 6	300 T	30·34	...
Haddo House	Mr. J. Forrest	5	0 5	180 T	32·54	...
Peterhead (Buchanness)	Bd. of Northern Lights	...	...	...	20·06	...
,, (H.M. Prison)	Dr. Buchan, F.R.S. ...	...	...	109	21·94	148
D Old Deer.....	J. Walker, Esq.....	5	2 0	135 ⅄	31·27	222
Kinnairdhead.....	Bd. of Northern Lights	...	...	...	17·07	...
BANFF.						
D Aberlour.....	J. McGowan, Esq.	5	1 0	300	32·75	194
D Keith (H.R.S.)	The Station Agent.....	5	1 0	364 T	35·58	198
Banff (Earl Hill)	A. Ramsay, Esq.	5	1 0	115 T	30·89	242
D Boyndie (Whitehills)	Rev. W. Anderson ...	5	1 0	68 ⅄	30·66	218
Cullen House	Mr. J. F. Smith.....	5	1 0	100 T	32·35	...
ELGIN OR MORAY.						
Grantown	Mr. W. Duncan.....	5	1 1	712 ⅄	29·44	197
Craigellachie(WesterElchiesSch)	Mr. J. Milne	5	1 0	560 T	29·36	173
D Forres H.R.S.	The Station Agent.....	5	1 0	25	25·19	168
,, (Grange Hall)	J. Grant Peterkin, Esq.	5	1 0	52 T	26·75	...
Kinloss	J. Mackessack, Esq. ...	5	1 3	20 T	26·64	...
D Gordon Castle.....	Mr. C. Webster	8	1 0	107 ⅄	30·47	194
D Elgin (Highfield)	R. Cameron, Esq.	5	1 0	80 T	29·63	184
Covesea Skerries	Bd. of Northern Lights	...	...	...	16·58	107
NAIRN.						
D Cawdor (Budgate).....	J. Joss, Esq.	5	1 0	250 T	32·08	220
D Nairn (Achareidh).....	Col. Clarke	8	1 0	59 T	24·88	196
,, (School Ho.).....	The Meteor. Council ...	8	1 9	84	26·84	210

DIVISION XVIII.—NORTH WESTERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
WEST ROSS.‡						
Applecross Gardens	Mr. D. McCowan	5	1 0	70 ⅄	66·33	...
D Strathconan (Dalbreac)	Mr. D. McIver	5	1 0	450	67·24	148
D Glencarron Lodge	Mr. D. D. Munro	5	1 0	504	114·10	271
Loch Torridon (Bendamph)	Hon. L. F. King-Noel	5	0 5	25	107·86	252
D ,, ,, (Shieldaig)	C. D. Rudd, Esq.	...	4 0	30	69·20	234
Loch Vraon	late Sir J. Fowler, Bt.	8	0 7	750	86·82	...
Braemore House	,, ,, ,,	8	0 7	750	79·71	...
Isle of Lewis (Stornoway)	Bd. of Northern Lights	...	3 4	31 ?	38·53	235
,, (,,)	The Meteor. Council	8	1 0	24	71·62	289
,, (Butt of Lewis)	Bd. of Northern Lights	...	3 6	...	47·77	212
EAST ROSS.‡						
Contin (Kinnahaird)	W. Ross, Esq.	5	1 2	74	30·92	...
D Strathpeffer Spa (Ambatovory)	J. T. Fox, Esq.	5	1 0	254	32·81	232
D ,, Station	Mr. J. Baxter	5	2 0	150	40·66	229
Evanton (Swordale House)	Dr. Buchan, F.R.S.	...	...	...	36·90	...
Cromarty	Bd. of Northern Lights	...	...	...	25·94	122
D Alness (Ardross Castle)	Mr. W. Minty	5	1 0	450 ⅄	44·22	227
D Fearn (Lower Pitkerrie)	R. Gordon, Esq., C.E.	5	1 0	95	27·83	126
,, (Geanies Mains)	Miss Hope Douglas	5	1 0	200 ⊺	27·66	...
Tarbetness	Bd. of Northern Lights	...	3 4	61 ?	32·04	...
WEST INVERNESS.						
Moidart (Kinloch moidart)	R. Stewart, Esq	...	...	...	76·23	...
Ben Nevis Observatory	Dr. Buchan, F.R.S.	5	...	4407	240·05	...
D Fort William (Ardtraigh)	C. Livingstone, Esq.	5	1 0	103 ⊺	103·39	252
,, ,, (Observatory)	The Meteor. Council	8	1 8	33	102·41	264
Moidart (Roshven, Glenmutchkin)	Mr. J. McPherson	5	1 0	100	95·89	268
,, (,,)	Prof. Blackburn	5	1 0	68 ⅄	71·68	267
D Loch Shiel (Glenaladale)	Major Macdonald	5	1 2	50 ?	133·02	268
D Arisaig	Mr. A. Grant	5	1 0	20 ?	75·78	257
D Loch Nevis (Inverie)	Mr. J. Huggins	5	0 6	10	107·92	250
D Glenquoich	Mr. D. Grant	8	2 4	660	141·84	267
D Skye (Strathaird)	Mr. K. Macdonald	5	1 4	45	113·63	224
,, (Oronsay)	Bd. of Northern Lights	...	0 6	15 ?	50·92	158
,, (Kyleakin)	,, ,, ,,	...	...	...	58·01	199
D ,, (Scalpay Island)	Mr. D. Gunn	5	1 0	4	93·80	260
D ,, (Raasay House)	Mr. J. M. Paul	5	2 6	80	82·69	268
D ,, (Gesto Hospital, Edinbane)	Dr. L. Grant	5	0 10	20	80·86	274
Barra (Barrahead)	Bd. of Northern Lights	...	3 0	640 ?	34·36	187
S. Uist (Ushenish)	,, ,, ,,	...	0 4	157 ?	76·59	231
D Benbecula	Rev. N. MacDougall	5	1 0	10 L	51·42	216
N. Uist (Monach)	Bd. of Northern Lights	...	...	...	55·82	200
Harris (Island Glass)	,, ,, ,,	...	...	...	58·01	237

‡ Including Cromarty.

DIVISION XVIII.—NORTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain 1898	Days on which 01 or more fell
			ft. in.	feet.	inches.	
EAST INVERNESS.						
D Mucomir	J. Scott, Esq., C.E.	5	1 0	155 ⊼	91·66	25
D Laggan Locks	H. J. Morton, Esq., C.E.	5	1 0	118 ⊼	88·63	27
D Invergarry	Mrs. Ellice	5	1 0	...	63·13	14(
Kingussie	Dr. Buchan, F.R.S.	...	...	824	36·82	23
D Fort Augustus	H. J. Morton, Esq., C.E.	5	1 0	98 ⊼	59·21	19
D ,, ,, (St. Benedict's)	Rev. M. Wall	5	1 6	68 ⊼	54·25	24
Alvie Manse	Rev. J. Anderson	5	1 0	720	29·95	20
D Aviemore (H.R.S.)	The Station Agent	5	1 0	710	28·21	22(
Loch Ness (Killin)	British Aluminium Co.	5	1 0	1200	61·80	...
,, ,, (Whitebridge)	,, ,, ,,	5	1 0	645	42·36	...
,, ,, (Aberchalder)	,, ,, ,,	5	1 0	665	37·73	...
,, ,, (Foyers)	,, ,, ,,	8	2 0	52	44·37	...
Inverness (High School)	Dr. Buchan, F.R.S.	...	...	114	31·10	19

DIVISION XIX.—NORTHERN COUNTIES.

SUTHERLAND.						
D Dornoch	Rev. D. Grant	5	1 0	...	32·38	177
D Invershin	Mr. G. Young	5	4 0	20 ⊺	48·88	198
D Golspie (H.R.S.)	The Station Agent	5	0 9	27	30·29	153
D ,, (Dunrobin Castle)	Mr. D. Melville	5	1 0	14 ⊼	38·71	193
,, (,, ,,) M	,, ,,	3	0 3	13 ⊼	39·07	..
Lairg	Rev. D. Macrae	5	0 10	385 ?	48·73	248
Stourhead	Bd. of Northern Lights	...	...	...	38·40	194
D Loch Naver (Altnaharra)	Rev. A. Sutherland	5	1 0	300 ⊺	51·94	236
D Tongue (Talmine)	Rev. Cathel Kerr	5	1 0	95 ⊺	55·79	233
D Durness	Rev. Adam Gunn	5	...	..	67·24	248
Cape Wrath	Bd. of Northern Lights	3	3 6	355	43·44	143
CAITHNESS.						
Wick	The Meteor. Council	8	1 9	77	27·38	232
D† Watten (H.R.S.)	The Station Agent	5	2 6	75 ⊺	32·81	209
Thurso (Holburnhead)	Bd. of Northern Lights	3	0 8	60 ?	53·30	228
Pentland Skerries	,, ,, ,,	...	3 3	72 ?	33·90	193
Stroma	,, ,, ,,	...	...	...	27·65	...
ORKNEY.						
D South Ronaldshay (Roeberry)	J. Gray, Esq.	5	1 2	101 ⊼	54·26	256
Hoy (Cantickhead)	Bd. of Northern Lights	...	0 6	...	38·08	155
,, (Graemsay Sound, East=High)	,, ,, ,,	...	3 4	27 ?	45·45	137
,, (,, ,, West=Low)	,, ,, ,,	...	3 4	...	46·77	198
Pomona (Deerness)	Dr. Buchan, F.R.S.	...	1 0	172	44·55	227
,, (Kirkwall)	Mr. J. W. Cursiter	3	1 3	20	52·62	257
Hellyar Holm	Bd. of Northern Lights	...	...	..	38·13	165
Auskerry	,, ,, ,,	...	...	...	27·05	135

DIVISION XIX.—NORTHERN COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge.			Depth of Rain.	Days on which 01 or more fell.
		Diameter	Height Above Ground.	Height Above SeaLevel	1898	
			ft. in.	feet.	inches.	
ORKNEY—(*con.*)						
Shapinsay (Balfour Castle)	Mrs. Balfour	5	0 6	50	38·15	...
Sanda (Start Point)	Bd. of Northern Lights	11	0 6	29 ?	48·18	157
North Ronaldshay	,, ,, ,,	...	...	...	37·22	182
SHETLAND.						
Fair Isle, S.	Bd. of Northern Lights	...	...	...	20·43	131
,, ,, N.	,, ,, ,,	...	...	...	31·10	108
Sumburghead	,, ,, ,,	...	...	...	35·15	104
,, (Dunroseness) ...	The Meteor. Council ...	8	1 0	84	42·51	268
Bressay	Bd. of Northern Lights	...	...	...	41·40	169
Sule Skerry	,, ,, ,,	...	...	...	45·20	105

IRELAND.

DIVISION XX.—MUNSTER.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height above Ground. ft.	in.	Height above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which 01 or more fell
	CORK.							
D	Castletownshend (Glen Barrabane)	E. B. Coghill, Esq. ...	5	3	0	25 L	30·85	179
D	Dunmanway (Coolkelure)	Col. Shuldham	5	1	6	500 T	69·27	244
	Roche's Point.....	The Meteor. Council ...	8	1	9	32	41·90	179
D	Douglas (Villa Franca).....	R. C. Sikes, Esq.	5	1	0	49 T	37·68	189
D	Cork (Queen's College)	Prof. Jack	8	1	0	60	35·64	192
D	,, (The Palace)	Rt. Rev. Bishop of Cork	5	1	0	40 L	35·80	192
D	,, (Wellesley Terrace)	W. Miller, Esq.....	5	1	0	190 B	33·80	222
D	Mallow (Summer Hill)	J. F. Williamson, Esq.	5	1	10	230 T	36·00	192
D	,, (Longueville)	R. E. Longfield, Esq...	5	0	10	300	33·20	192
D	,, (,, Field) ...	,, ,, ,, ...	5	1	1	300	37·63	191
	Doneraile (Carker House).....	The Meteor. Council ...	5	1	0	267	35·41	179
	KERRY.							
D	Darrynane Abbey	D. O'Connell, Esq.....	5	1	0	13 M	48·51	247
D	Waterville (Iveragh Lodge).....	T. J. Wilmot, Esq.....	5	1	0	86 M	49·11	235
	Kenmare (Derreen)	Mr. W. Holbrow	5	1	0	74 T	60·20	200
	Valencia (Glanleam)	The Meteor. Council ...	8	1	0	12	50·26	218
	Cahirciveen	,, ,, ,, ...	8	2	0	32	51·78	251
	Mangerton ..... M	Ven Archdeacon Wynne	8	3	0	1760	88·50	...
	Gap of Dunloe (Garrymeen).....	,, ,, ,, ...	8	3	0	75	76·20	...
D	Killarney (Woodlawn)	,, ,, ,, ...	5	1	1	96 M	54·58	221
	WATERFORD.							
D	Knockaderry	M. J. Fleming, Esq., C.E.	5	2	6	233 T	45·27	219
D	Waterford (Brook Lodge).....	C. P. Bolton, Esq., C.E.	5	1	0	104 T	36·54	189
D	,, (Cove Lodge)	T. N. Harvey, Esq. ...	11	4	9	76	32·95	173
	,, (,, ,,) .....M	,, ,, ,, ...	5	1	0	72	34·67	...
D	,, (Tycor)	M. J. Fleming. Esq. C.E.	5	0	7	171 T	35·44	155
D	Portlaw (Mayfield).....	J. Anderson, Esq.	5	4	0	70	39·35	181
	,, (The Gardens, Curraghmore)	Mr. T. Singleton	...	...		...	42·59	...
D	Glenam [Clonmel]	Miss Grubb.....	8	1	4	80 T	38·49	208
	TIPPERARY.							
D	Clonmel (Bruce Villa)	J. H. Grubb, Esq.....	5	1	3	110 T	34·63	193
D	Cahir (Duneske).....	R. W. Smith, Esq. ...	5	1	0	193	36·65	181

DIVISION XX.—MUNSTER—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1898 inches.	Days on which .01 or more fell
TIPPERARY—(*con.*)							
D Cahir Abbey	Mrs. W. Rochfort	5	0	6	...	39·32	161
Ballina [Killaloe]	T. Crosthwaite, Esq. C.E.	5	2	0	124 ⅄	49·23	262
D Derry Castle [Killaloe]	Mr. T. Manly	5	1	6	580 T	52·43	235
D Nenagh (Clashnevin)	J. Mounsey, Esq.	5	1	2	300 ⅄	35·76	215
D ,, (Castle Lough)	A. Parker, Esq.	5	1	3	120 T	43·33	225
D Ballingarry (Hazelfort)	Mrs. Fraser	5	1	0	...	34·54	215
LIMERICK.							
Foynes	The Meteor. Council	5	1	0	104	40·22	198
Pallaskenry (Kilcornan)	Mr. J. Smyth	5	1	0	130	*34·49*	...
D Limerick (Roxborough)	A. W. Shaw, Esq.	8	1	6	112 T	38·58	212
,, (Victoria Terrace)	J. Horan, Esq.	5	1	0	60 T	37·60	198
,, (Mulgrave Street)	The Meteor. Council	5	1	0	...	39·32	...
CLARE.							
Carrigaholt Castle	W. C. V. Burton, Esq.	5	1	0	16	37·31	224
D Killadysert (Paradise Hill)	Rev. H. Henn	5	0	11	105 T	50·86	229
D O'Briensbridge (Ross)	J. Digan, Esq.	10	2	0	93	43·51	198
D Broadford (Hurdlestown)	Colonel Bentley	5	1	0	167 ⅄	36·03	238
Ennis (Roslevan)	Mrs. Scott	5	1	11	40	37·02	207
D Miltown Malbay	M. Molohan, Esq.	5	1	0	400 T	46·51	248
Inagh (Mount Callan)	The Meteor. Council	5	1	0	480	65·83	226
D Lahinch (Moy House)	Miss Bowes	5	1	0	53	41·05	235

DIVISION XXI.—LEINSTER.

WEXFORD.							
D New Ross (Longraigue)	J. W. Deane, Esq.	5	1	0	210 T	38·66	192
D Wexford (Bann-aboo)	Col. Magrath	8	4	0	9	35·51	166
D Templeudigan (Ballindoney)	J. Budgen, Esq.	5	1	0	434 B	42·08	204
D Enniscorthy (Ballyhyland)	Mrs. Moffat	5	1	0	365 T	40·91	206
,, (Monksgrange)	E. M. Richards, Esq.	5	1	0	565 B	47·39	226
D Oulart (Wells)	C. M. Doyne. Esq.	5	1	0	215 T	37·54	128
D Gorey (Courtown House)	Rt Hon Earl of Courtown	5	3	0	80 T	33·28	151
KILKENNY.							
D Rockenham [Waterford]	A. E. Graves, Esq.	8	2	6	140 T	33·55	120
D Inistioge (Woodstock)	Lady Louisa Tighe	5	1	0	400 T	39·35	176
D Graigue (Brandondale)	R. R. Burtchaell, Esq.	5	2	0	90 T	33·54	113
Kilkenny Castle	The Meteor. Council	8	1	0	208	29·11	180
D ,, (Sion Villa)	J. O'Connell, Esq., C.E.	5	1	0	198	30·55	218
,, (Millmount)	R. Collis, Esq.	5	2	0	180	29·13	172
Goresbridge (Barraghcore House)	H. de M. Fleming, Esq.	5	1	0	130 T	28·88	200
WICKLOW.							
D Laragh (Glendalough)	Wyndham H Wynne Esq	5	2	9	460 T	52·93	205
D Roundwood (Vartry Lodge)	Dublin Corporation	8	1	0	720	52·51	169

DIVISION XXI.—LEINSTER—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1898	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
WICKLOW—(*con.*)						
Newcastle (Killadreenan)	B. H. Steede, Esq., M.D.	8	1 2	255 T	33·14	174
Greystones (Knockdolian)	R Cathcart Dobbs Esq C E	5	1 2	68 T	30·55	171
D Enniskerry (Parknasilloge)	E. E. Barrington, Esq.	10	...	...	*46·33*	149
D† Bray (Fassaroe)	R. M. Barrington, Esq.	10	5 0	250	37·88	180
CARLOW.						
Bagnalstown (Fenagh House)	D. R. P. Beresford, Esq	5	1 0	340	33·65	173
D Carlow (Browne's Hill)	W. Browne Clayton, Esq	5	1 0	291 ⅄	34·43	192
QUEEN'S COUNTY.						
Abbey Leix (Pembroke Terrace)	Rev. G. N. Smith	5	7 0	342 T	33·47	...
,, ,, (Blandsfort)	J. L. Bland, Esq.	5	3 0	532 ⅄	39·04	224
KING'S COUNTY.						
D Parsonstown (Birr Castle)	Rt Hon Earl of Rosse FRS	8	1 0	180	34·22	204
Victoria Lock [Meelick]	T. Crosthwaite, Esq. C.E.	5	2 0	119	26·85	151
D Banagher	Mr. J. Deegan	5	2 0	170	30·49	102
D Tullamore	Rev. R. S. Craig	5	1 0	201 T	36·75	208
KILDARE.						
D Monasterevin (Moore Abbey)	Mr. A. Whitelaw	5	1 0	236 T	32·09	198
D Straffan House	Mr. F. Bedford	5	2 0	240 ⅄	35·48	205
DUBLIN.						
Glen-na-Smoel (Water Works)	F. P. Dixon, Esq., C.E.	5	1 6	516 ⅄	50·36	226
Killiney (Cloneevin)	R. O'B. Furlong, Esq..	5	1 0	250 T	27·97	188
D Kingstown (Tivole Terrace)	Mr. A. Chute	5	0 8	120 T	30·17	173
Rathmines (Terenure)	F. P. Dixon, Esq., C.E.	8	0 6	125 ⅄	29·01	198
,, (Leinster Road)	E. H. Cannon, Esq.	5	1 0	170	27·55	183
D† Dublin (Fitz William Square)	J. W. Moore, Esq., M.D.	8	1 6	54 T	27·05	194
D ,, (Phœnix Park)	Col. Hellard, R.E.	8	1 0	155 ⅄	29·85	192
D Lucan (The Garden)	Mr. P. Reid	5	1 0	105 ⅄	30·09	154
D Glasnevin (Botanic Gardens)	F. W. Moore, Esq.	8	1 0	68 ⅄	31·33	184
D Balbriggan (Ardgillan)	Capt. Taylor	5	1 0	211 T	29·52	182
,, (,,)	,, ,,	8	1 0	211 T	29·49	...
D ,, (Laragh)	Rev. S. P. Warren	5	1 0	57 T	29·60	221
MEATH.						
D Summerhill House	Rt. Hon. Lord Langford	5	1 0	372 T	36·48	213
D Athboy	C. P. Coghill, Esq.	8	1 3	227	35·44	137
Kells (Headfort)	The Marquis of Headfort	5	3 6	230	39·77	213
D Moynalty (Westland)	W. A. Barnes, Esq.	5	1 2	260 T	37·33	215
D Drumconrath (Aclare House)	Admiral Singleton, C.B.	10	2 6	170 T	34·68	217
D ,, (Corstown House)	,, ,, ,,	5	3 0	153 T	27·85	159
WESTMEATH.						
Athlone (The Moorings)	Capt. J. Preston	5	1 0	175	32·83	...
D ,, (Twyford)	J. P. Hodson, Esq.	5	5 0	188 ⅄	35·13	220

DIVISION XXI.—LEINSTER—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above SeaLevel feet.	Depth of Rain. 1898 inches.	Days on which .01 or more fell.
WESTMEATH—(*con.*)							
D Mullingar (Belvedere)	Mr. J. Bayliss	5	1	0	367 T	39·56	198
Streete (Daramona)	W.E.Wilson,Esq.,FRS	10	1	0	270	36·22	211
LOUTH.							
D Ardee (Lissrenny)	T. F. Filgate, Esq.	8	0	10	75 T	33·38	231
Dundalk (Farndreg)	J. Barton, Esq.	5	1	0	90 T	30·68	145
D†Greenore	T. Chambers, Esq.	5	1	0	4 L	31·11	178
LONGFORD.							
Cloondrah	T.Crosthwaite,Esq.C.E.	5	2	0	130	29·82	262

DIVISION XXII.—CONNAUGHT.

GALWAY.							
D Woodpark [Scariff]	R. F. Hibbert, Esq.	5	1	0	170 ⅄	44·77	238
D Galway (Queen's College)	Prof. Anderson	5	9	0	30	40·05	221
D Ballinasloe	W. H. Kempster, Esq.	5	3	0	160 ⅄	37·98	222
D Woodlawn	Mr. A. Porter	5	3	6	300 T	37·93	219
D Ahascragh (Clonbrock)	Rt.Hon.Lord Clonbrock	10	5	4	200 T	34·42	115
D Clifden (Kylemore House)	Mr. T. McNab	5	1	0	105	81·28	237
D ,, (,, Castle)	Mr. W. Comfort	5	0	9	170 T	75·82	259
Tuam (Castle Hacket)	Miss Bernard	5	1	0	...	36·56	202
,, (Gardenfield) M	H. Kirwan, Esq.	5	1	0	155 T	40·77	...
,, (,,) ...*Snowdon*	,, ,, ,,	5	6	0	160 T	40·58	226
ROSCOMMON.							
Athlone	T.Crosthwaite,Esq.C.E.	5	2	0	130 ⅄	32·08	181
Rooskey	,, ,, ,,	5	2	0	136 ⅄	33·58	248
MAYO.							
D Cong (The Glebe)	Rev. R. Y. Lynn	5	1	11	112 T	49·47	239
Ballinrobe (Cranmore)	Miss Knox	5	0	9	99	44·37	...
D Crossmolina (Enniscoe)	J. Pratt, Esq.	5	0	11	74 T	54·36	273
Belmullet	The Meteor. Council	8	1	0	40	46·40	305
SLIGO.							
Ballymote (New Park)	R. A. Duke, Esq.	5	1	2	228	41·20	...
D Collooney (Markree Observatory)	F. W. Henkel, Esq.	5	1	0	130 ⅄	40·38	249
,, (,, ,,)	,, ,, ,,	5	16	6	148 ⅄	34·03	239
D Ballysadare Bay (Glen Lodge)	Vernon Cochrane, Esq.	5	1	0	14	40·27	225
LEITRIM.							
Jamestown (Albert Lock)	T.Crosthwaite,Esq.C.E.	5	2	0	142 ⅄	31·61	175
Carrigallen	The Meteor. Council	...	...		...	33·59	227
D Ballinamore (Lawderdale)	J.O. Lawder, Esq.,C.E.	5	1	0	275 T	40·17	217
Drumshanbo	T.Crosthwaite,Esq.C.E.	5	2	0	165 ⅄	36·67	147

DIVISION XXIII.—ULSTER.

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1898	Days on which 01 or more fell.
			ft. in.	feet	inches.	
CAVAN.						
D Stradone House	Mr. J. Hart	5	1 0	280	36·93	204
Cavan (Water Works) M	W. H. Morris, Esq. C.E.	8	...	304 ⊼	27·70	...
D Killeshandra (Castle Hamilton)..	W. J. Hamilton, Esq...	5	1 0	251 T	28·04	179
D Belturbet (Cloverhill)	Mrs. Sanderson	5	1 0	202 T	31·10	214
D ,, (Red Hills)	Mrs. Whyte Venables..	5	0 9	208 ⊼	32·49	203
D Ballyconnell House	Surg.-Gen. S. B. Roe, CB	8	1 2	196	41·52	223
MONAGHAN.						
D Dartrey [Cootehill]	Mr. F. Prince	5	2 6	265	31·97	191
D Monaghan (Rowantree House)...	Dr. J. C. Hall	5	5 6	240	29·81	194
ARMAGH.						
D† Bridge Street [Newry]	J. L. D. Meares, Esq...	5	1 0	22 ⊼	35·74	205
D Armagh Observatory	Dr. Dreyer ..	8	1 0	205 ⊼	31·76	219
D Rich Hill (Fruitfield)	Messrs. Lamb Bros. ...	5	3 9	...	32·60	218
D Loughgall (Manor House)	Mrs. Cope	5	1 0	205 T	29·47	187
D Lurgan (Belle Vue)	S. A. Bell, junr., Esq..	5	0 5	200 T	27·83	185
DOWN.						
D† Warrenpoint (Summer Hill)	B. M. Kernan, Esq. ...	5	1 0	30 L	38·00	118
Mourne Mountains (Windy Gap)	F W McCulloughEsq CE	5	3 6	1625	60·80	...
D Rathfryland (Ballynagappoge)...	J. Smyth, Esq., C.E....	5	1 0	300	32·92	173
D† Castlewellan (Lough Island) ...	,, ,, ,,	5	1 0	440 T	43·03	172
Banbridge (Katesbridge)	A. Mulligan, Esq.	5	1 0	230	26·02	...
D Seaforde	Rt. Hon. Col. Forde ...	8	0 5	180 ⊼	33·07	202
D Banbridge (Corbet Reservoir) ...	J. Smyth, Esq., C.E....	5	1 0	234	25·83	139
D† ,, (Milltown)	,, ,, ,, ...	8	0 8	200 T	30·99	205
D† Waringstown	Holt Waring, Esq. ...	8	0 8	191 ⊼	35·17	184
Donaghadee	The Meteor. Council ...	8	1 6	30	30·54	220
ANTRIM.						
Stonyford (Belfast W. W.) ...	F W McCullough Esq. CE	5	1 6	437 ⊼	34·56	222
†Belfast (Queen's College)	Mr. G. A. Robinson ...	11	7 4	68 ⊼	30·26	204
D ,, (Linen Hall Library) ...	G. Smith, Esq.	5	4 9	12 T	33·45	197
D ,, (Springfield)	J. Firth, Esq.	5	1 0	150 T	39·84	210
† ,, (Antrim Road)	F W McCullough Esq. CE	7	7 0	144 T	34·74	173
Antrim (Ardnaveigh)	H. B. Murray, Esq. ...	6	0 6	250 T	31·75	185
Carrickfergus (Dorisland)	F W McCullough Esq. CE	5	1 0	250 ⊼	39·00	264
,, (South Woodburn)	,, ,, ,,	5	1 0	640 ⊼	41·78	240
,, (North Woodburn)	,, ,, ,,	5	1 0	735 ⊼	43·20	252
,, (Copeland)	,, ,, ,,	5	1 0	424 ⊼	40·00	255
,, (Lough Mourne)...	,, ,, ,,	5	1 0	596 ⊼	41·66	254
Ballynure (Ballyboley)	Mr. T. H. Craig	5	1 4	400	42·42	222
D Ballymena (Harryville)	J. R. Williams, Esq....	5	1 5	150 T	38·77	245
D Broughshane (Quolie)	H. O'Hara, Esq.	5	1 4	893	43·21	242
Ballymoney (Balnamore)	W. H. Lawlor, Esq. ...	5	1 5	50 T	35·46	270
Stranocum (Gardenvale)	A. McNeill, Esq.	5	1 0	160	41·83	210
D Bushmills (Dundarave)	Sir F. E. Macnaghten, Bt	5	1 0	162 T	34·64	235

DIVISION XXIII.—ULSTER—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	in.	Height Above SeaLevel feet.	Depth of Rain. 1898 inches.	Days on which ·01 or more fell.
	LONDONDERRY.							
D	Garvagh (Moneydig)	H. R. Morrison, Esq...	5	1	0	121	35·99	192
D	Londonderry (Clooney Terrace)..	Mr. J. Conroy	5	1	0	68 ↑	41·28	255
D	,, (The Asylum)	T. Campbell, Esq.....	5	1	0	36 T	45·23	237
D	,, (Creggan Res.).....	Mr. J. Hutchison	8	1	0	320 T	42·15	267
	Limavady (Drenagh)	C. T. McCausland, Esq	5	1	0	80	40·08	241
D	Coleraine.....	J. Kennedy, Esq.	5	4	0	52 T	39·34	228
	TYRONE.							
D	Stewartstown (The Square)	A. Johnston, Esq.	5	1	4	300 T	37·84	203
D	Omagh (Edenfel)	Col. Buchanan, C.B. ...	8	1	0	280 T	40·38	219
D	Newtown Stewart(Baron's Court)	Mr. R. Bell.....	5	1	0	250 T	42·21	213
	DONEGAL.							
D	Killybegs	A. Brooke, Esq.....	5	1	0	30	65·01	251
	Raphoe (Convoy Ho.)	Col. Montgomery	5	1	0	110 T	37·81	220
	Rathmullen	Dr. Loughnan	5	1	0	1	43·68	153
	Bloody Foreland (Ardnadrean)..	Rev. W. S. Griffith ...	5	0	9	39 ↑	53·84	...
D	Buncrana (Rockfort).....	T. Colquhoun, Esq. ...	5	1	0	40 T	41·51	250
D	Moville (Prospect Villa)	Mr. J. Lowry	8	2	0	80	48·89	258
D	Horn Head.....	C. F. Stewart, Esq. ...	5	1	0	160	46·51	257
D	Lough Swilly (Carrablagh)	H. C. Hart, Esq.	5	1	0	130	49·43	255
	Malin Head	The Meteor. Council ...	8	1	0	220	33·87	245

ARRANGEMENTS

FOR THE

SYSTEMATIC OBSERVATION

AND

RECORD

OF THE

RAINFALL OF THE BRITISH ISLES.

COMPILED BY

G. J. SYMONS, F.R.S.,

Chevalier de la Légion d'Honneur;
Albert Medallist for 1897.
Secretary Royal Meteorological Society; Membre du Conseil Société Météorologique de France; Member Scottish Meteorological Society; Korrespondirendes Mitglied der Deutsche Meteorologischen Gesellschaft; Fellow Sanitary Institute; Fellow Royal Colonial Institute; Membre correspondant étranger Soc. Royale de Médecine Publique de Belgique; Socio correspondiente Sociedad Cientifica Antonio Alzate, Mexico, &c., &c.

SIXTEENTH EDITION.

LONDON:
EDWARD STANFORD, COCKSPUR STREET, S.W.
1899.

Introductory and Historical.—I cannot help this section appearing to be egotistical; the rainfall organization being entirely my own creation, it is impossible for it to be otherwise.

In the early part of the year 1859 I began collecting copies of records of the fall of rain, and early in 1861 wrote to all the observers of whom I was then aware, and asked them to send me all the records for the year 1860 that they could. I received 168 returns, and printed a table showing the total fall at all those places, being a larger number than had ever before been classed together. This publication gave a stimulus to observers, and from that time onwards their number has steadily increased until it now exceeds 3,000.

The amount of information published has increased even more, for whereas at first I printed only the total annual fall, I now publish essays on various branches of rainfall enquiry, and full abstracts of the most remarkable falls in short periods (ten minutes, half-an-hour, and so on), the heaviest falls in one day, tables of the monthly fall at several hundred stations, and, in short, give all the information which I can collect and which it seems expedient to print.

From the foregoing it will be evident that the compilation of the present annual volume (of which the short title is "British Rainfall, 1896," &c.) is a very serious labour. The mere checking of more than three thousand returns takes a long time, and so does the due arrangement of the various facts reported, and by no means the least onerous matter is ensuring the accuracy of the printing of the whole.

During the first few years I not only gave my own time gratuitously to the work, but also bore all the cost of postages and of printing. It soon, however, became far too great for me to bear, and my correspondents kindly offered to share it with me. In 1865 the price of the annual volume was fixed at five shillings, and, although the size and cost of the volume has since so largely increased, that the price to the general public has had to be doubled, those observers who desire it are still allowed one copy at the old price. There are two reasons for this: (1) Because as the book could not be compiled without the help of observers, they ought to be allowed to have it as cheaply as possible; (2) Because a small number of the observers (about 400, whose subscriptions are duly published) contribute annually from one to ten guineas towards the general expenses of the work.

The existing state of matters is, therefore, shortly as follows. There are more than 3000 persons, well spread over England and Wales,

Scotland and Ireland, each of whom is, I hope, strictly obeying the rules on pages [249]. To each of them I send on December 31st each year, blank forms to be returned to me filled with the facts observed by them. At the same time I send a list of the various publications, and invite such pecuniary aid as it may be agreeable to them to send.

I ought, perhaps, to say what becomes of the subscriptions. I will mention some of the outlets. (1) There are more than a thousand observers whose returns have to be collected, examined, discussed, and printed, who do not contribute sixpence towards the cost thereof. (2) In some localities it is impossible to obtain volunteer observers, and there the observers receive regular salaries. (3) The mass of office work, correspondence, &c., is far beyond what I can myself accomplish; two regular assistants are, therefore, employed, and besides that, considerable sums are paid for extra assistance at times of pressure. (4) The expenditure for printing and postages is very large.

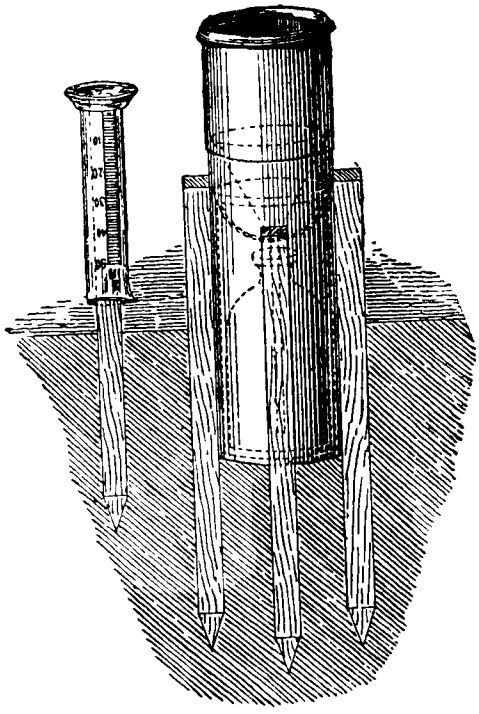
In addition to the annual volume, I publish a monthly periodical, *Symons's Monthly Meteorological Magazine*, giving, in addition to a full chronicle of the progress of meteorology, details of rainfall at upwards of 100 stations. This is sent free to subscribers.

It may, perhaps, be added that it always affords me pleasure to reciprocate as far as possible the assistance which the observers render to me, either by affording them meteorological information, data as to the height of their stations above sea level, or advice as to the purchase of instruments.

In short, the state of the case is this : I have given myself up to the collection of statistics of rainfall—old ones and current ones ; I invite everybody to help me, both with observations and with funds, and I promise, in return, to render to all my correspondents all the help that is in my power.

Patterns of Rain Gauges, and where to Buy them.—This is not a pleasant section to write, for there is considerable jealousy among the manufacturers, and I am almost certain to be accused of favouritism by some one. However, I have never patented any pattern of rain gauge, and therefore leave the field open to all.

Upon one point it is necessary to be despotic, viz., that amateurs never try to make their own gauges ; they are almost certain to go wrong in some respect, and nothing is more vexing, both to the observers and to myself, than for it to be discovered after observations have been recorded for a long time that the labour of years is vitiated by an inaccurate instrument.



For use in ordinary localities I recommend the Snowdon gauge; it is five inches in diameter, is easily fixed by four stakes, as shown; the glass jar, each division on which denotes $\frac{1}{100}$th of an inch of rain, when filled up to the top division holds 0·50 in., or half an inch; the bottle holds about three inches of rain, and, of course, in the very rare case of the fall exceeding that, the excess is saved by the can, and must be carefully measured. It costs 12s. 6d. or £1 1s., according as it is made of galvanized iron, or of copper. Where cost is no object, it is, by some, thought better to have a larger gauge, viz., eight inches diameter, costing from £2 to £3, but I do not advise it.

Snowdon pattern rain gauges can be obtained from any optician but it may be convenient to give, in alphabetical order, the names and addresses of a few of the principal makers (the gauges can easily be sent by Parcel Post):—

CASELLA, L., 147, Holborn, E.C.
HICKS, J. J., Hatton Garden, E.C.
NEGRETTI & ZAMBRA, Viaduct, E.C., and Regent Street, W.
PASTORELLI, F., Brook Street, New Bond Street, W.

Testing.—Wherever, and of whomsoever, a rain-gauge may be bought it is very desirable that the purchaser should insist upon having a certificate of its accuracy. Rain gauges are examined, and certificates issued, by Kew Observatory, and by myself, the charge in each case is the same, namely, 2s. 6d.

Blank Forms.—All blank forms required for returns to myself, and additional ones wherever desired, are supplied gratuitously, and even those sold are charged at little more than their actual cost.

Change of Residence.—Each observer is requested to decide upon a specific name for his station, and to notify immediately any change in the position of the gauge or the discontinuance of his record.

SUGGESTIONS FOR SECURING UNIFORMITY OF PRACTICE AMONG RAINFALL OBSERVERS.

I.—SITE.—A rain gauge should not be set on a roof, a slope, or a terrace, but on a level piece of ground, at a distance from shrubs, trees, walls, and buildings—at the very least, as many feet from their base as they are in height. Tall-growing flowers, vegetables, and bushes must be kept away from the gauge. If a thoroughly clear site cannot be obtained, shelter is most endurable from N.W., N., and E., less so from S., S.E., and W., and not at all from S.W. or N.E.

II.—OLD GAUGES.—Old established gauges should not be moved, nor their registration discontinued until, at least, two years after a new one has been in operation, otherwise the continuity of the register will be irreparably destroyed. Both the old and the new ones must be observed at the same time, and recorded for comparison. Changes, where inevitable, are least objectionable if made on January 1st.

III.—LEVEL AND FIXING.—The funnel of a rain gauge must be set quite level, and the gauge so firmly fixed that it will remain so in spite of any gale of wind or ordinary circumstance. Its correctness in this respect should be tested from time to time.

IV.—HEIGHT.—The funnels of gauges newly placed should be 1 ft. above grass. Information respecting height above sea level may be obtained from the Editor.

V.—RUST.—If the funnel of a japanned gauge becomes so oxidised as to retain the rain in its pores, or threatens to become rusty, it should have a coat of gas tar, or japan black. Copper gauges are free from this evil, and far the best.

VI.—FLOAT GAUGES.—The measuring rod should be detached from the float, and never be left in the gauge. If it is attached to the float, it should be pegged or tied down, and only allowed to rise to its proper position at the time of reading. To allow for the weight of the float and rod, these gauges are generally so constructed as to show 0 only when a small amount of water is left in them. Care must always be taken to set the rod to the zero or 0.

VII.—CAN AND BOTTLE GAUGES.—The measuring glass should always be held upright, or placed on a level slab; the reading is to be taken midway between the two apparent surfaces of the water.

VIII.—TIME OF READING.—Nine a.m. daily; if taken only monthly, then 9 a.m. on the 1st.

IX.—Date of Entry.—The amount measured at 9 a.m. on any day is to be set against the previous one; because the amount registered at 9 a.m. of, say, 17th contains the fall during 15 hours of the 16th, and only 9 hours of the 17th.

X.—Mode of Entry.—If less than one-tenth (·10) has fallen, the cypher must *always* be prefixed; thus, if the measure is full up to the seventh line, it must be entered as ·07, that is, no inches, no tenths, and seven hundredths. There must always be two figures to the right of the decimal point. Even in the case of one-tenth of an inch (usually written ·1) a cypher must be added, making it ·10. Neglect of this rule causes much inconvenience. All columns should be cast *twice*—once up and once down, so as to avoid the same error being made twice. Never copy a total, always cast the column afresh. When there is no rain, a line should be drawn rather than cyphers inserted.

XI.—Caution.—The amount should always be written down before the water is thrown away.

XII.—Small Quantities.—The unit of measurement being ·01, observers whose gauges are sufficiently delicate to show less than that, are, if the amount is under ·005, to throw it away, if it is ·005 to ·010 inclusive, they are to enter it as ·01.

XIII.—Absence.—Every observer should train some one as an assistant; but where this is not possible, instructions should be given that the gauge be emptied at 9 a.m. on the 1st of the month, and the water bottled, labelled, and tightly corked, to await the observer's return.

XIV.—Heavy Rains.—When very heavy rains occur, it is desirable to measure immediately on their termination, and it will be found a safe plan after measuring to return the water to the gauge, so that the morning registration will not be interfered with. Of course if there is the slightest doubt as to the gauge holding all that falls, it must be emptied, the amount being written down, and added to the subsequent measurement.

XV.—Snow.—In snow three methods may be adopted—it is well to try them all. (1) Melt what is caught in the funnel by adding to the snow a previously ascertained quantity of warm water, and then, deducting this quantity from the total measurement enter the residue as rain. (2) Select a place where the snow has not drifted, invert the funnel, and turning it round, lift and melt what is enclosed. (3) Measure with a rule the average depth of snow, and take one-

twelfth as the equivalent of water. This being a very rough method, is not to be adopted if it can be avoided. Some observers use in snowy weather a cylinder of the same diameter as the rain gauge, and of considerable depth. If the wind is rough, all the snow is blown out of a flat-funnelled rain gauge. Snowdon pattern gauges are much the best.

XVI.—OVERFLOW.—Hardly a year passes in which some gauges are not allowed to overflow, it is therefore necessary to call attention to the fact that there does not seem to be any part of the British Isles where 4 inches may not fall in 24 hours. It is not desirable to purchase any gauge which will not hold 6 inches.

XVII.—SECOND GAUGES.—It is desirable that observers should have two gauges, and that one of them should be capable of holding 8 inches of rain. One of the gauges should be registered daily, the other weekly or monthly as preferred, but always on the 1st of each month. By this means a thorough check is kept on accidental errors in the entries, which is not the case if *both* are read daily. Observers having two gauges and recording both daily, should keep the records distinct, and forward a copy of each. Never take a mean of two.

XVIII.—DEW AND FOG.—Small amounts of water are at times deposited in rain gauges by fog and dew; they should be added to the amount of rainfall, because (1) they "tend to water the earth and nourish the streams;" and not for that reason only, but (2) because in many cases the rain gauges can be visited only monthly, and it would then obviously be impossible to separate the yield of snow, rain, &c.; therefore, for the sake of uniformity, all must be taken together, and as except by watching all night it is never possible to be certain that small amounts are wholly dew, it is best to count all entries of ·01 in. or upwards as days with rain.

XIX.—DOUBTFUL ENTRIES.—Whenever there is the least doubt respecting the accuracy of any observation, the entry should be marked with a **?**, and the reason stated for its being placed there.

XX.—BREAKAGE.—The Editor has no desire to supply rain gauges or glasses, or in any way to undertake, or interfere with, the business of Opticians; but the continuity and permanent accuracy of the records of his correspondents is of such importance, that any assistance in his power is always at their service.

XXI.—LEAKAGE.—Observers should test their gauges occasionally to see that the amount collected is neither increased nor decreased by leakage.

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